INSTALLATION
INSTRUCTION
350541 Rev.E

Castle

7662

AUTOMATIC
INDEXING WASHER

INSTALLATION INSTRUCTIONS 350541 (12/24/94)
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DESCRIPTION OF SYMBOLS & NOTES IN MANUAL

The following symbols with related notes appear in this manual.

"Warning" notes alert the user to the possibility of personal injury.

"Caution" notes alert the user to the possibility of damage to the equipment.

"Note" alerts the user to pertinent facts and conditions.

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Table of Contents

General Description 1
Model Identification 2
Utilities and Specifications 2
Shipping Configuration 3
Tools and Materials Required 4
Installation Overview 5
    Installation Flowchart 6
Dry-Unload Section 7
Wash-Rinse Section 10
Prewash-Ultrasonic Section 14
Load Section 16
Compartment Preparation 18
Seal Interior Frame Joints 19
Guillotine Door Shaft 20
Guillotine Door Air Cylinders 22
Ultrasonic Elevator Air Cylinder 23
Dryer Assembly 24
Air Cylinder Solenoid Valve Assembly 26
Control Panel Box 27
Junction Box No. 1 (JB-1) 28
Door Switch Connection 30
Blower Motor Connection 30
Pneumatic System Connection 30
Junction Box No. 2 (JB-2) 31
Pneumatic System Tubing 32
Exterior Plumbing 33
Exterior Plumbing 33
Condenser Plumbing (Option) 34
Ultrasonic Generators 35
Interior Plumbing 36
Interior Thermocouple Cables 36
Detergent Supply Tubing 37
Junction Box No. 3 (JB-3) 38
Junction Box No. 5 (JB-5) 39
Main Control Box 40
Exhaust Connection 41
Electrical Supply Connection 41
Extender Panels 42
Concluding Tasks 43

NOTES

GENERAL DESCRIPTION

The following instructions cover the installation of a Castle 7662 Automatic Indexing Washer, a unit designed specifically for the cleaning of hospital utensils and surgical instruments.

Composed of seven work stations linked by an automatically sequencing (or indexing) conveyance system, a Washer provides for the loading, prewashing, ultrasonic cleaning, washing, rinsing, drying, and unloading of goods that have been placed in stainless steel baskets or racks.

A Washer is generally installed in a facility's Decontamination Room. In most cases, the unit's Unload Station will be flush with, or protrude through, a wall opening into a Clean-Preparation Room.

As an option, one of the following two Table Systems may be provided: a Basket Accumulation Table, or a Packaging Accumulation Table (the latter system consisting of a Belt Conveyor followed by a Basket Accumulation Table). If either one is provided, it would be installed in the Clean-Preparation Room and attached to the Unload End of the unit.

Prior to shipment all components mounted on the exterior of the Washer are removed and the Washer itself is broken down into four basic sections.

At installation, the procedure then consists of reassembling the four basic sections, remounting all exterior components, and making the required plumbing, exhaust, and electrical connections.

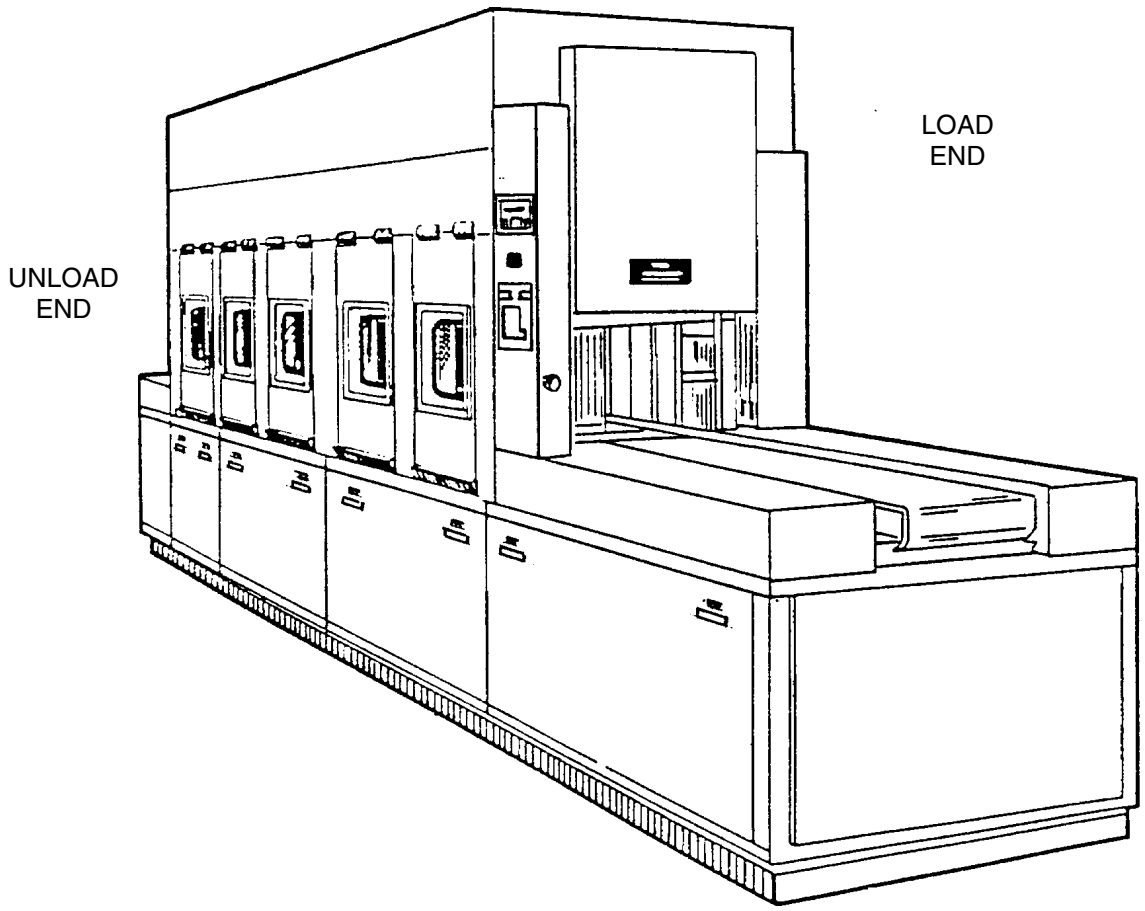


FIGURE 1: CASTLE 7662 AUTOMATIC INDEXING WASHER

MODEL IDENTIFICATION

The rating plate for a 7662 Automatic Indexing Washer is affixed to the front of the Control Box Door, which is located behind the Control Box Access Panel.

Record the model type and serial number (S/N) from the rating plate.

TYPE: _____

SERIAL NO: _____

Include model type and serial number when comunicating with Getinge/Castle..

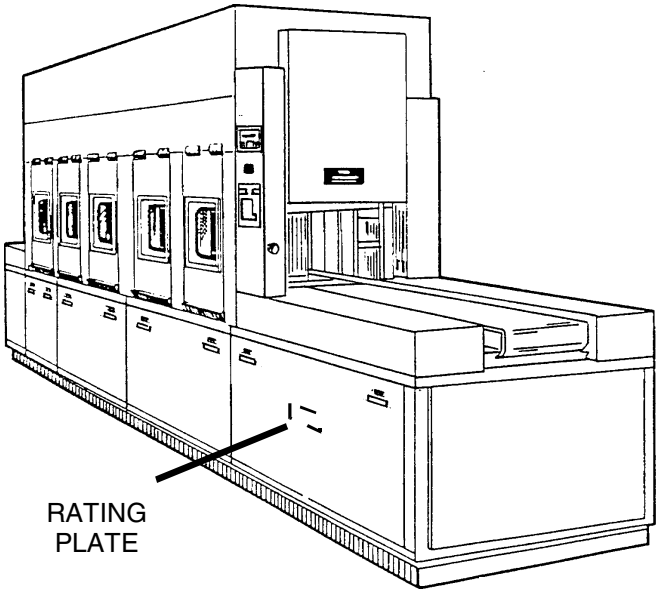


FIGURE 2: RATING PLATE LOCATION

UTILITIES & SPECIFICATIONS

Electrical: 208V, 60 Hz, 3 PH, 60 A, 5-Wire w/Neutral & Ground
240V, 60 Hz, 3 PH, 50 A, 4-Wire w/Ground
480V, 60 Hz, 3 PH, 30 A, 4-Wire w/Ground

Hot Water: 1" IPS (25.4 mm)
40-60 PSI (276-414 kPa)
120°F (49°C)

Cold Water: 3/4" IPS (19.1 mm)
40-60 PSI (276-414 kPa)

Steam: 1" IPS (25.4 mm)
60 PSI (414 kPa) 450#/HR
600#/HR w/Heated DI Tank Option.

Condensate: 3/4" IPS (19.1 mm)

Purified Water: 1/2" IPS (12.7 mm)
120 GPH (455 lPH)

Compressed Air: 1/2" IPS (12.7 mm)
80 PSI (552 kPa)
1.5 CFM (2.55 CmHr) Demand
3.0 CFH (5.1 CmHr) Consumption

Drain: 2" IPS (51.2 mm)

Exhaust: 8" Dia (203 mm)
500 CFM (850 CmHr) Negative
1/2" Static Pressure

Weight: 4600 lbs (2072 kg) Approximate

Overall Size: 88" min H x 42" W x 20' L
(2235 mm x 1076 mm x 6.1 m)

SHIPPING CONFIGURATION

The shipping configuration for a Washer consists of four basic sections:

- Load Station
- Prewash-Ultrasonic Stations (combined)
- Wash-Rinse Stations (combined)
- Dry-Unload Stations (combined).

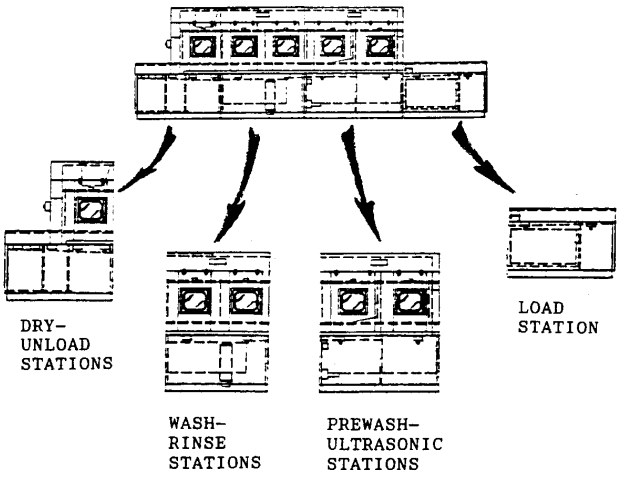


FIGURE 3: SHIPPING CONFIGURATION

Components to be mounted on the exterior of the unit, such as the Control Panel Box, plumbing service lines, extender panels, the barrier flange, etc., are packaged and shipped separately.

The Washer's Dryer is packaged and shipped separately.

A 13' long (approx.) guillotine door shaft is shipped taped to a 13' long 2 x 4" stud.

An optional system such as a Basket Accumulation Table is packaged and shipped separately.

Any accessories such as baskets or racks are packaged and shipped separately.

TOOLS AND MATERIALS REQUIRED

The following is a list of specific tools and materials required at the installation site:

TOOLS

Common Handtools	(Assorted)
12" C Clamp	(Qty: 2)
5' Bar Clamp	(Qty: 1)
Johnson Bar	(Qty: 1)
Pallet Jack	(Qty: 1)
Pry/Pinch Bar	(Qty: 2)
Caulking Gun	(Qty: 1)
Razor Edged Scraper	(Qty: 1)
¼-20 Tap, Short	(Qty: 1)
¼-20 Tap, Long	(Qty: 1)
10-32 Tap, Short	(Qty: 1)
10-32 Tap Long	(Qty: 1)
#7 Drill Bit	(Qty: 2)
#21 Drill Bit	(Qty: 2)
Torpedo Level	
2'-4' Level	

MATERIALS

- Gasket Material (100 ft)
- Silicone Adhesive (10 tubes)
- Silicone Primer (1 pt)
- Thinner (1 qt)
- Polish (1 Container)
- Assorted Stainless Steel Nuts, Bolts, Washers, Lockwashers
- Assorted Wire Nuts, Tie Wraps
- 3" x 4" Stainless Steel Shims:
  - 12 ga (0.105") (Qty: 10)
  - 14 ga (0.075") (Qty: 10)
  - 16 ga (0.060") (Qty: 10)
  - 18 ga (0.048") (Qty: 10)

1 x 4 x 6" Wood Block (Qty: 2)
2 x 4 x 15" Wood Block (Qty: 6)

The following items are recommended for use if the Washer is to be assembled out-of-position, then moved to its intended operational site:

- 4'x 8'x 1/8" Masonite, Smooth (Qty: 4)
  To protect floor during assembly.
- Pipe, Rigid 3/4" Dia x 48"L (Qty: 6)
  For rolling the Washer into position after assembly.

Getinge/Castle provides the customer with a copy of the Rough-In Assembly drawing for a specific installation site. Rough-In Assembly drawings are not carried in a 7662 Automatic Indexing Washer's Installation Instructions.

INSTALLATION OVERVIEW

If sufficient working space is available, a 7662 Automatic Indexing Washer can be assembled at its operational position (See Figure 4.).

If sufficient space is not available, a Washer will have to be assembled out-of-position, then maneuvered into its operational position (See Figure 5.).

Instructions carried here assume that sufficient working space is available to allow the unit to be assembled at its operational position. If space is lacking, installers may modify this procedure to suit the restrictions imposed by a particular site.

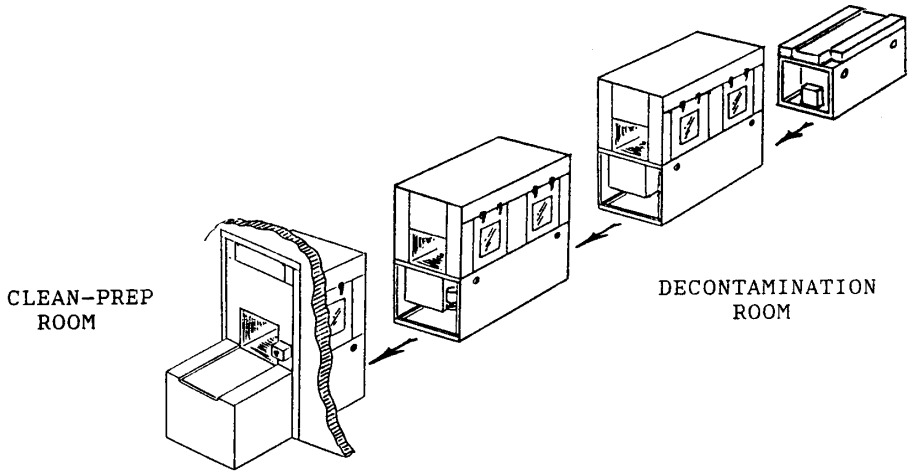


FIGURE 4: IN-POSITION ASSEMBLY

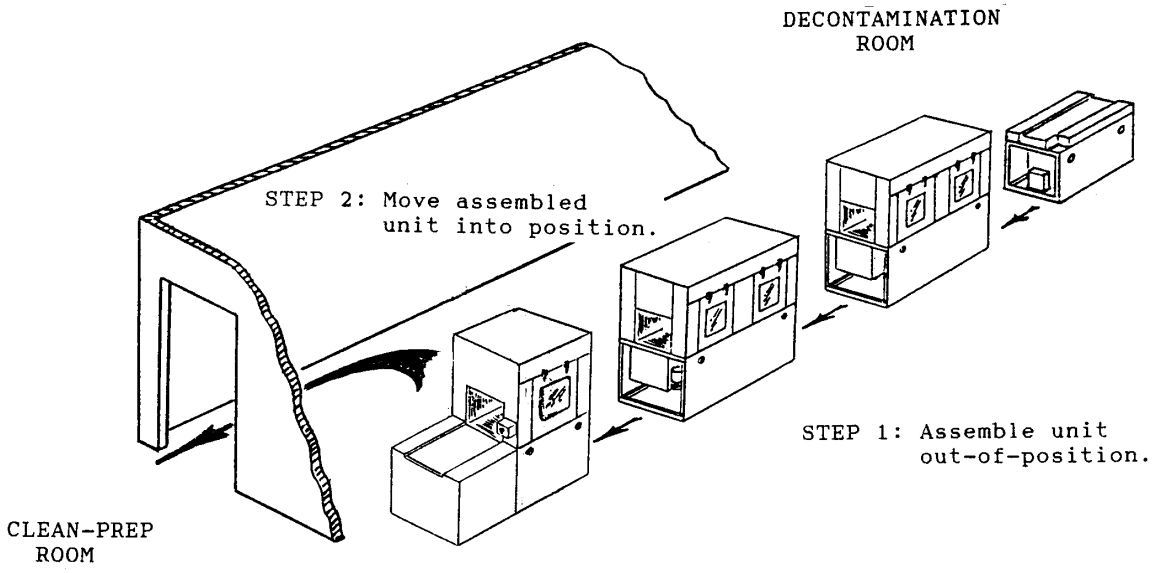
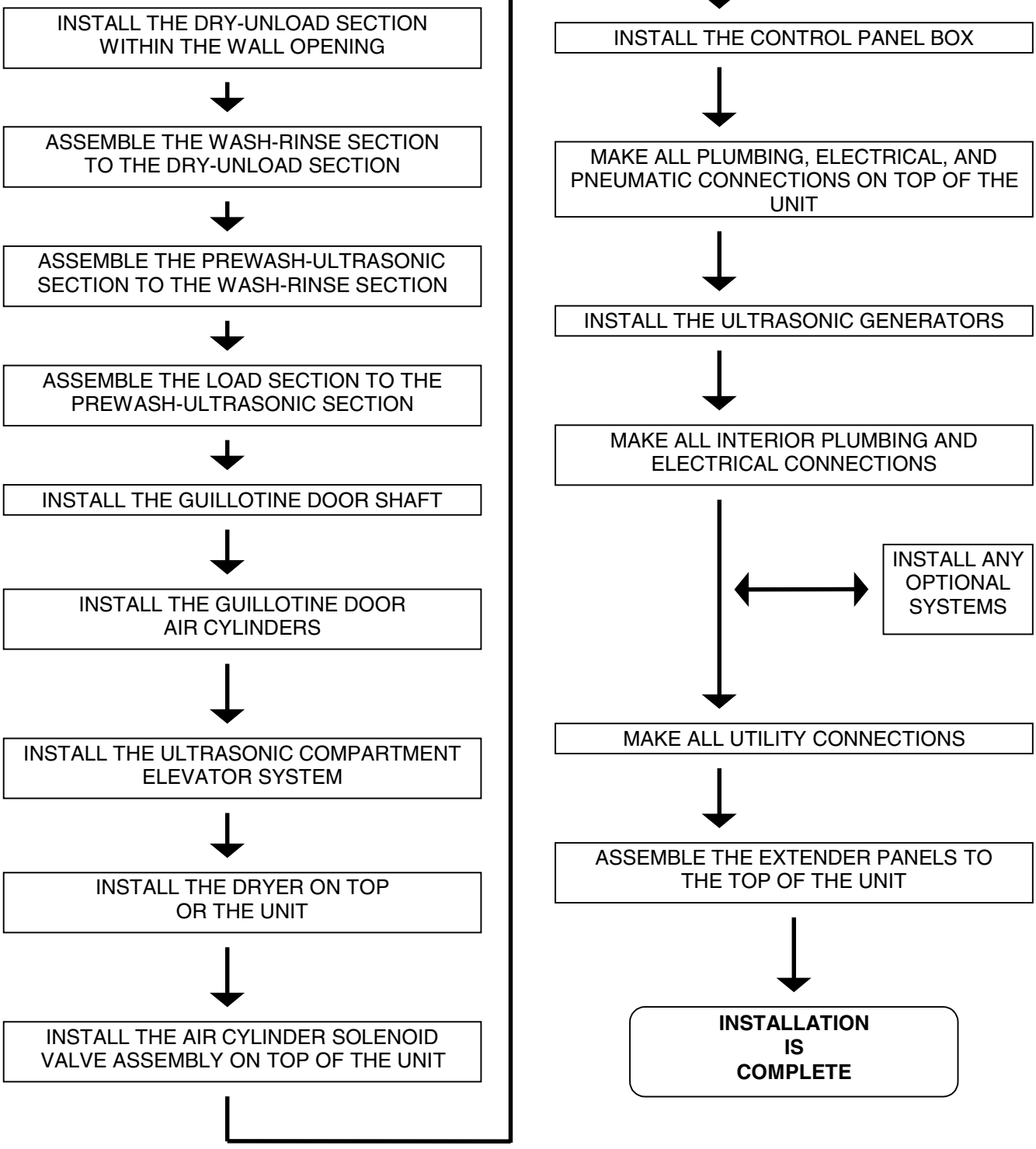


FIGURE 5: OUT-OF-POSITION ASSEMBLY

INSTALLATION FLOWCHART

The flowchart presented here identifies the primary steps involved in the installation of a 7662 Automatic Indexing Washer, and the order in which they are generally carried out.

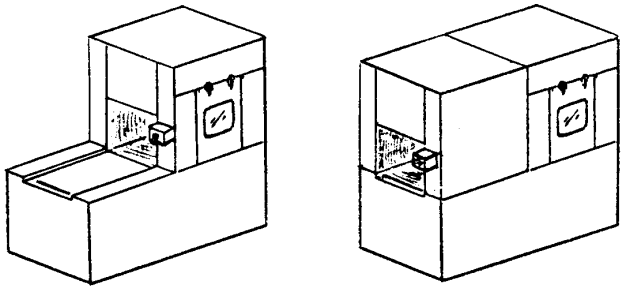

INSTALL THE DRY-UNLOAD SECTION WITHIN THE WALL OPENING
ASSEMBLE THE WASH-RINSE SECTION TO THE DRY-UNLOAD SECTION
ASSEMBLE THE PREWASH-ULTRASONIC SECTION TO THE WASH-RINSE SECTION
ASSEMBLE THE LOAD SECTION TO THE PREWASH-ULTRASONIC SECTION
INSTALL THE GUILLOTINE DOOR SHAFT
INSTALL THE GUILLOTINE DOOR AIR CYLINDERS
INSTALL THE ULTRASONIC COMPARTMENT ELEVATOR SYSTEM
INSTALL THE DRYER ON TOP OR THE UNIT
INSTALL THE AIR CYLINDER SOLENOID VALVE ASSEMBLY ON TOP OF THE UNIT
INSTALL THE CONTROL PANEL BOX
MAKE ALL PLUMBING, ELECTRICAL, AND PNEUMATIC CONNECTIONS ON TOP OF THE UNIT
INSTALL THE ULTRASONIC GENERATORS
MAKE ALL INTERIOR PLUMBING AND ELECTRICAL CONNECTIONS
INSTALL ANY OPTIONAL SYSTEMS
MAKE ALL UTILITY CONNECTIONS
ASSEMBLE THE EXTENDER PANELS TO THE TOP OF THE UNIT
INSTALLATION IS COMPLETE

DRY-UNLOAD SECTION

A Dry-Unload Section has two basic configurations. The one to be installed at a particular site depends on whether the Unload End of the 7662 Automatic Indexing Washer is to protrude through a wall opening or not.

Units that are fitted with an Unload End Enclosure Hood are to be installed flush with a wall opening.

Units without an Unload End Enclosure Hood are to protrude through a wall opening.



WITHOUT UNLOAD END ENCLOSURE HOOD

WITH UNLOAD END ENCLOSURE HOOD

FIGURE 6: UNLOAD END CONFIGURATIONS

The instructions that follow are applicable to both configurations.

1. Unpack the Dry-Unload Section and remove any loose components that have been secured to the Unload End for shipment (eg: Ultrasonic Generators).

2. Move the Dry-Unload Section through the wall opening.

   - If there is no Unload End Enclosure Hood, move the Section through the opening until the dividing panel between the Dry Compartment and the Unloader is no less than 13 inches from the wall opening.

   - If there is an Unload End Enclosure Hood, move the Section through the opening until the front end of the Unloader is no less than 13 inches from the wall opening.

NOTE

The weight of a Dry-Unload Section is approximately 1200 lbs (541 kg).

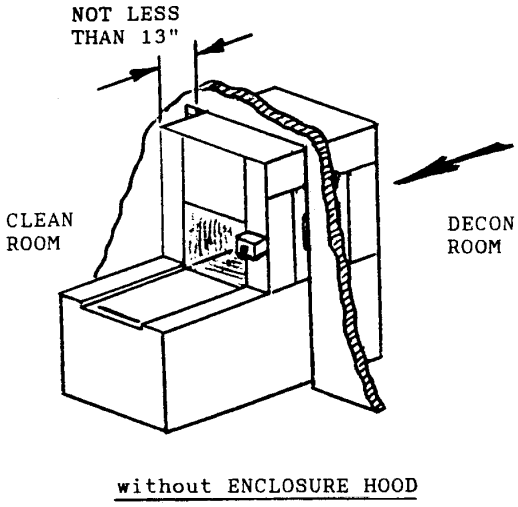


FIGURE 7: STEP 2 POSITIONING

3. Assemble the two Corner Extender Panels to the top of the Dry Compartment. Six #10-32 x 3/8"L slot head screws are required. (Ref: Figure 8.)

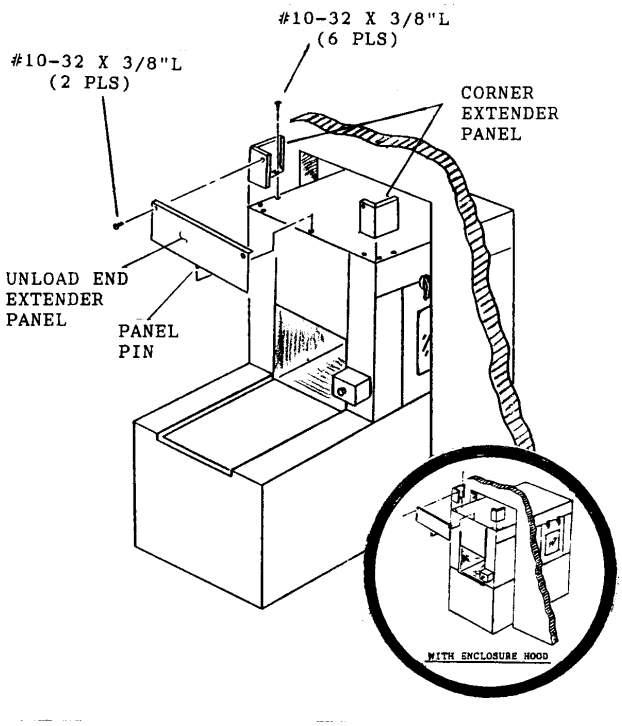


FIGURE 8: EXTENDER PANELS

4. Assemble the Unload End Extender Panel. (Ref: Figure 8.)

   - Insert the Panel's 1/8" diameter pin into the hole provided in the top of the Dry Compartment.
   - Secure the Panel to the Corner Extender Panels. Two #10-32 x 3/8"L slot head screws are required.

5. Assemble the Barrier Flange as shown in Figure 9.

   - Use flanges as templates for drilling the required holes.
   - Use a #21 hi-speed drill and #10-32 tap (A total of 12 holes are required.)
   - Fasten the three flanges to the unit with #10-32 x 3/8"L slot head screws (Include lockwashers.).

6. After assembly, carefully move the Dry-Unload Section back through the wall opening to its operating position, as shown in Figure 10. (Method and materials for securing the Barrier Flange to the wall are to be provided by the customer.)

NOTE

Assembly of the remaining Extender Panels must await installation of all the required components that are to be mounted on the top of the unit.

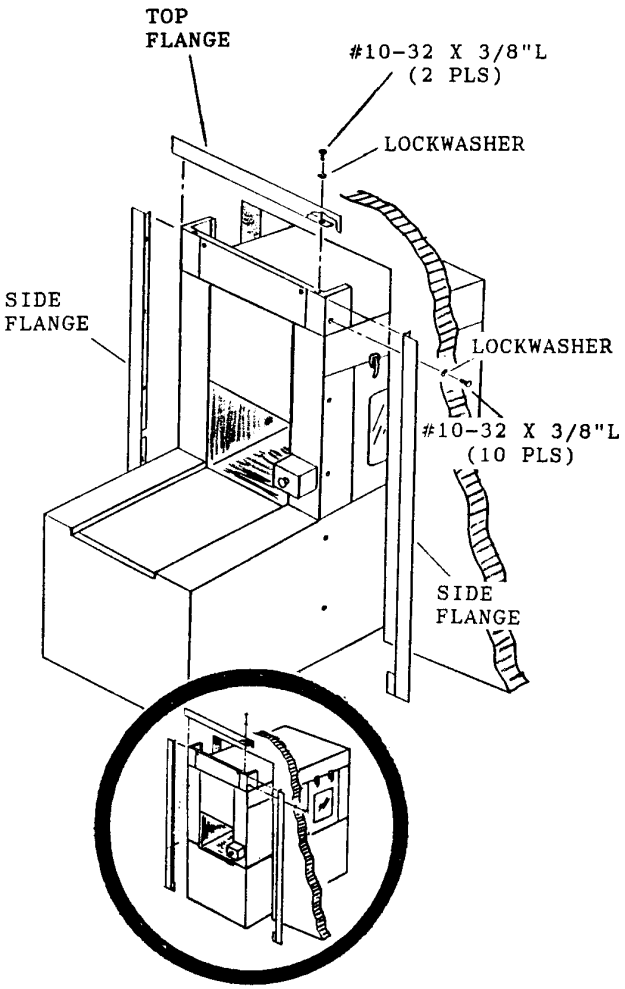


FIGURE 9: BARRIER FLANGE

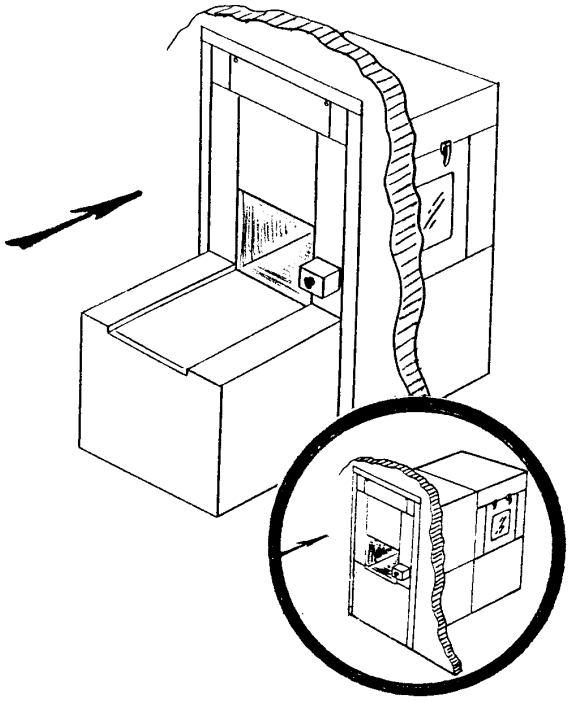


FIGURE 10: STEP 6 POSITIONING

WASH-RINSE SECTION

Objective: Assemble the Wash-Rinse Section to the Dry-Unload Section.

NOTE

The weight of a Wash-Rinse Section is approximately 1500 lb. (682 kg).

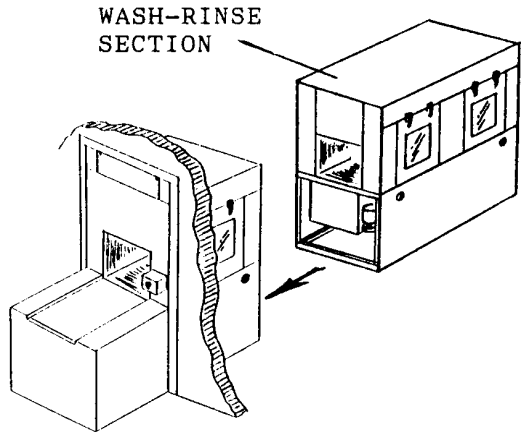


FIGURE 11: WASH-RINSE SECTION

1. Unpack the Wash-Rinse Section and position it a few feet away from the Dry-Unload Section.
2. Remove (unlatch and lift out) all the Side Access Doors from both Sections, and set them aside. The Wash-Rinse Section has two doors; the Dry-Unload Section has one door. (The weight of a door is approximately 18 lb. (8.1 kg). NOTE: Also remove any loose items and fasteners (bagged) that were placed within both sections for shipping.)

3. Remove the lower Service Access Panels (Front and Back) from both sections, and set them aside.

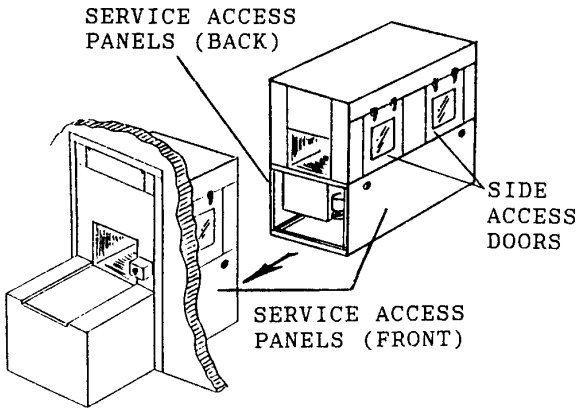


FIGURE 12: REMOVE DOORS AND PANELS

4. Remove, and temporarily set aside, the two Index Channel Filler Plates attached to the Wash-Rinse Section. Each plate is secured with a single #10-32 screw. (The plates are removed to permit passage of the ends of the Dry-Unload Index Channels through the Wash-Rinse frame. They will be reassembled to the frame after the Dry-Unload and Wash-Rinse Index Channels have been joined.)

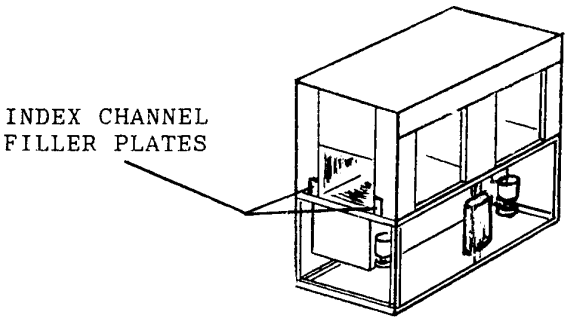


FIGURE 13: INDEX CHANNEL FILLER PLATE

5. Remove, and temporarily set aside, the first two locking nuts from the ends of each of the two Spray Manifold Drive Rods that protrude from the Dry-Unload Section.

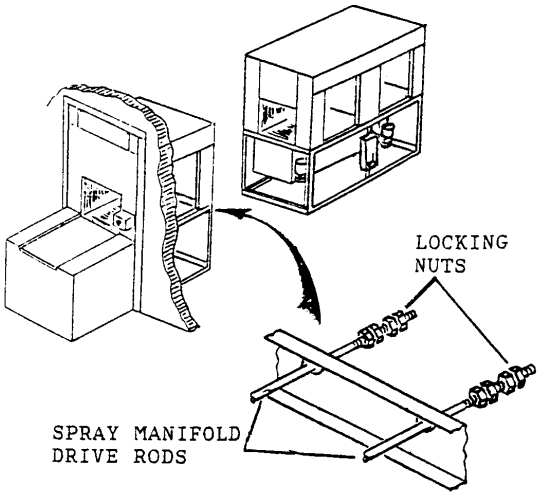


FIGURE 14: REMOVE LOCKING NUTS

6. Clean all gasket mating surfaces on both the Wash-Rinse and Dry Unload Sections with thinner. (A razor edged scraper may be used to remove stubborn material.)

Silicone Primer (orange) is extremely flammable, harmful if swallowed or inhaled, and harmful to eyes or skin. Wear protective clothing, gloves and eyewear when using this product (in Step 7). Keep it away from heat, sparks and flames. Store upright in a cool place below 30 C (85 F). Keep container closed when not in use. Use only in a well-ventilated area. Avoid breathing vapors.

Silicone Primer will stain/discolor clothing, stainless steel surfaces, flooring, etc. Avoid accidental spills. Avoid spreading this substance onto exterior surfaces of the Washer

7. Apply a coat of Silicone Primer to the mating frame of the Dry-Unload Section.

8. After applying the Silicone Primer, cut and affix gasket strips to the frame of the Dry-Unload Section. Then apply Silicone adhesive on all exposed metal surfaces lying between the strips. (See Figure 15 for details.)

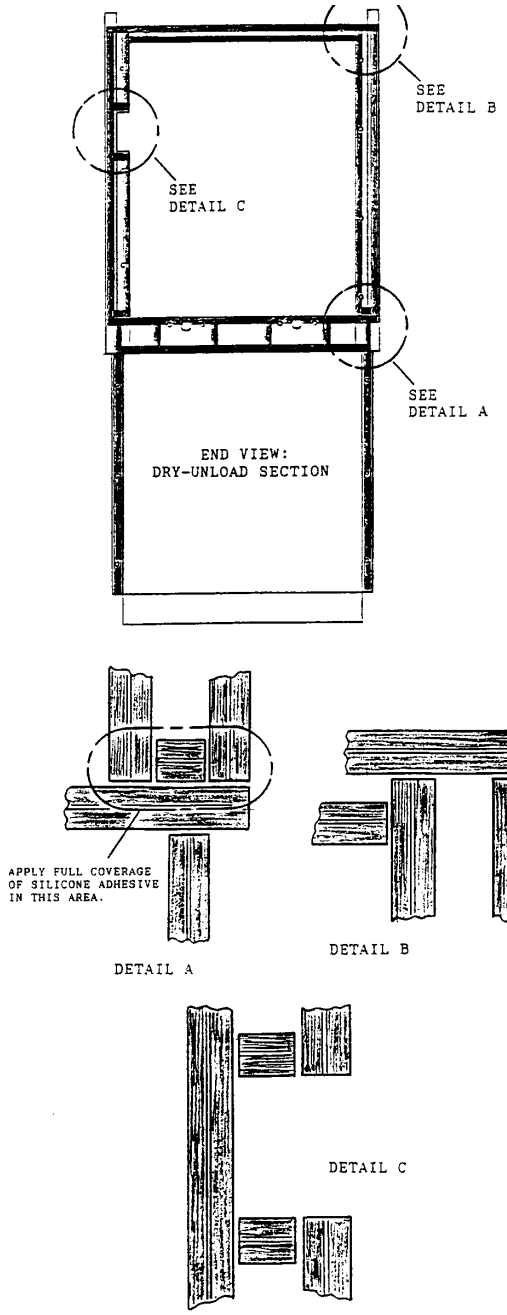


FIGURE 15: GASKET APPLICATION

9. Carefully move the Wash-Rinse Section forward to mate with the Dry-Unload Section. Be aware that the various protruding components on the Dry-Unload Section must pass through matching holes or cutouts in the Wash-Rinse Section before the sectional frame members can be mated. Those components are:
    - Five weld studs on the upper-back frame.
    - Two Spray Manifold Drive Rods.
    - Two Index Channel ends.

Before drawing the sections together, check the lower frame members to make sure no material (e.g.: sections of wire, hose, etc.) are lying between the frames.

If required, temporarily shim mating sections to bring them into alignment before fastening. Do not attempt to draw sections into alignment using the frame fasteners; ¼-20 fasteners may fail if used for this purpose.

10. Once the two sections are mated, draw the sectional frame members together with clamps. (See Figure 16.)
    - Use two 12" C Clamps on the lower vertical frame members.
    - Use a 5-foot Bar Clamp positioned across the width of the joint at the top of the sections. The function of this Clamp is to maintain a precise alignment of the sections as they are drawn together.

Place wooden blocks between jaws of clamps and clamping surfaces to avoid damage (eg: scratches) to stainless steel finish.

11. Secure the base members of the frame at four places with 5/16" bolts, nuts, and lockwashers. (Item A, Figure 17.)

12. Secure the lower vertical frame members with six 1/4" bolts, nuts, and lockwashers. (Item B, Figure 17.)

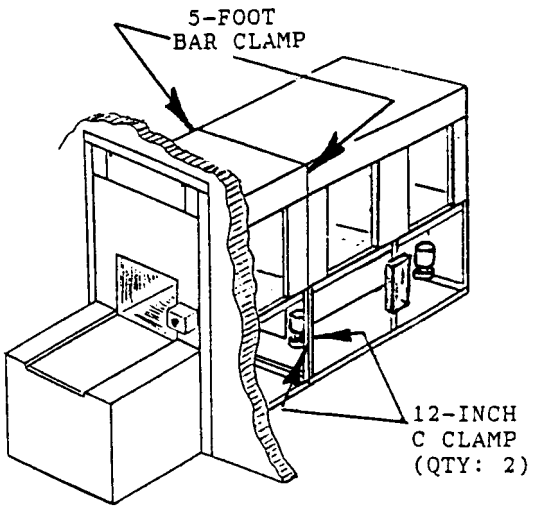


FIGURE 16: CLAMP POSITIONING

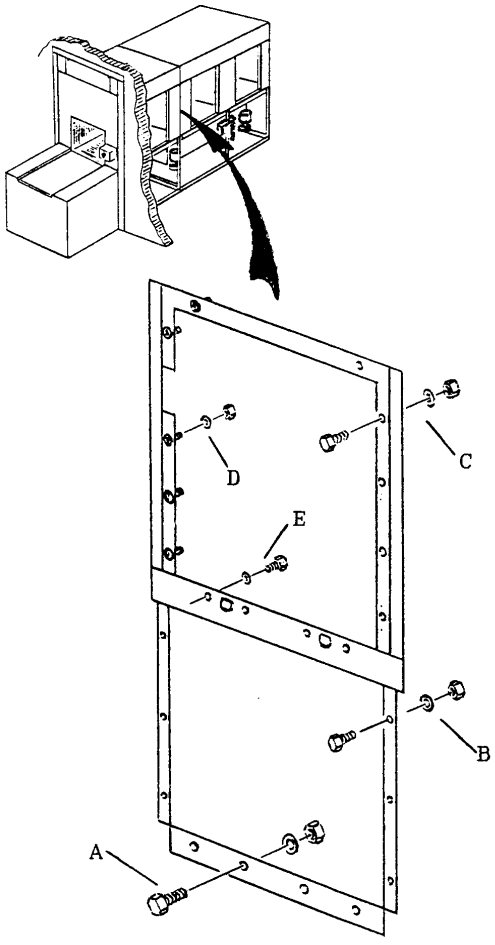


FIGURE 17: STEPS 11, 12, & 13

13. Secure the interior frame of the upper compartment. Use five 1/4" bolts, nuts, and lockwashers on the nearside vertical frame (Item C, Figure 17.). Use five 1/4" nuts and lockwashers on the weld studs at the back vertical frame (Item D, Figure 17.). Use four 1/4" bolts and lockwashers only on the center frame (Item E, Figure 17.)

14. Insert the Splice Cover between the center frame and the Index Channel Support. Secure the assembly with two 1/4" bolts and lockwashers. (Splice Cover may have to be forced into position using wooden block and hammer.)

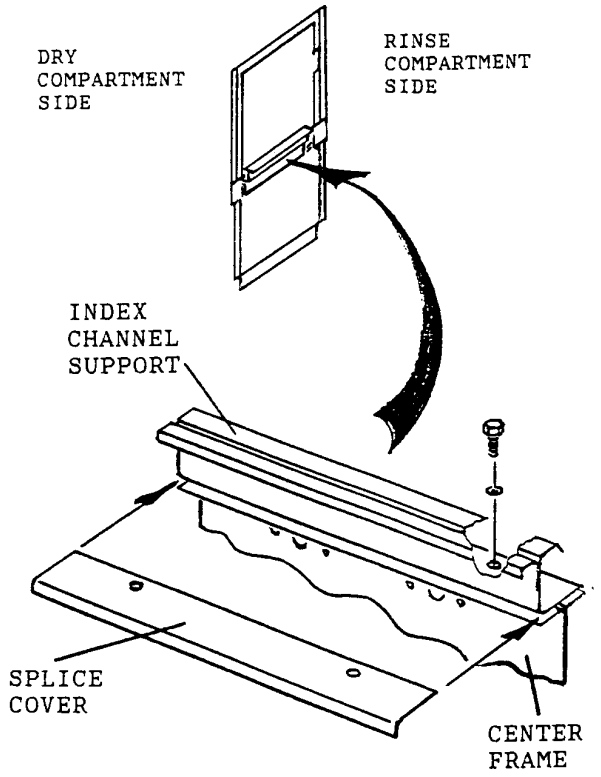


FIGURE 18: SPLICE COVER ASSEMBLY

15. Assemble the Spray Manifold Drive Rods to the Rinse Manifold using the two pairs of locking nuts that were removed in Step 5.

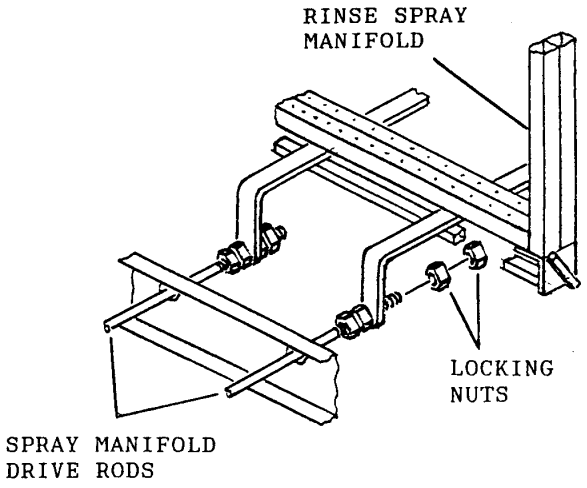


FIGURE 19: MANIFOLD CONNECTION

16. Connect the ends of the Dry-Unload Index Channels to the Wash-Rinse Index Channels. Four 1/4" bolts and lockwashers are required.

17. Assemble the two Index Channel Filler Plates that were removed in Step 4. The back Plate is assembled on the Rinse Compartment side of the frame; the near Plate is assembled on the Dry Compartment side of the frame.

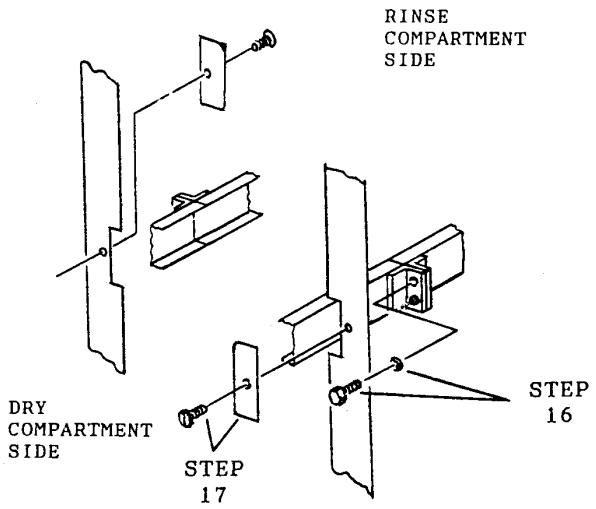


FIGURE 20: STEPS 16 & 17

PREWASH-ULTRASONIC SECTION

Objective: Assemble the Prewash-Ultrasonic Section to the Wash-Rinse Section.

NOTE

The weight of a Prewash-Ultrasonic Section is approximately 1150 lb. (523 kg).

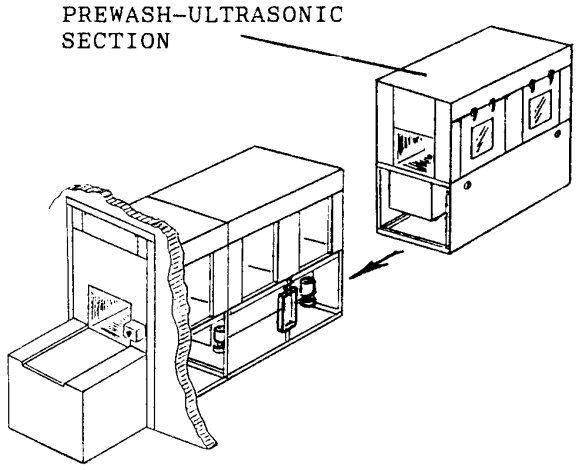


FIGURE 21: PREWASH-ULTRASONIC SECTION

1. Unpack the Prewash-Ultrasonic Section and position it a few feet away from the Wash-Rinse Section.

2. Remove (unlatch and lift out) the two Side Access Doors, and set them aside. The weight of the door for the Ultrasonic compartment is approximately 24 lb. (10.9 kg), or 6 lb. (2.7 kg) heavier than any one of the other four doors. (Ref: Figure 22.)

3. Remove the wire mesh Ultrasonic Elevator Guard, and set it aside. (Ref: Figure 22.)

   To Remove:

   - Grasp the Guard by its handle and slide it straight up until it comes free at the bottom.
   - Lower the Guard to free the top.
   - Turn it slightly on the diagonal and ease it out through the door opening.

4. Remove any loose items and fasteners (bagged) that were placed within the section for shipping.

5. Remove the lower Service Access Panels (Front and Back), and set them aside. (Ref: Figure 22.)

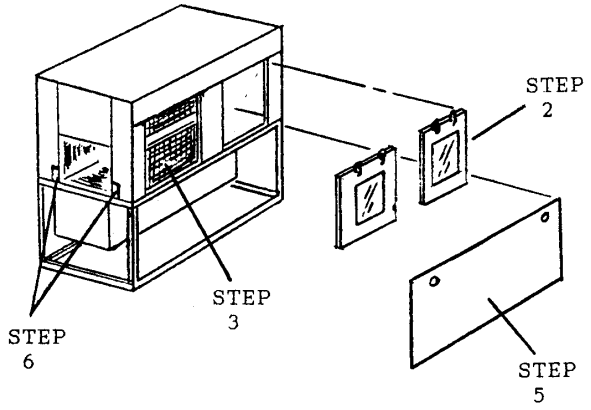


FIGURE 22: STEPS 2, 3, 5, & 6.

6. Remove, and temporarily set aside, the two Index Channel Filler Plates. Each plate is secured with a single #10-32 screw. (Ref: Figure 22.)

7. Clean all gasket mating surfaces on both the Wash-Rinse and Prewash-Ultrasonic Sections with thinner.

8. Apply a coat of Silicone Primer to the mating frame of the Wash-Rinse Section. (See WARNING and CAUTION on page 9.)

9. Cut and affix gasket strips to the frame of the Wash-Rinse Section. Apply Silicone adhesive on all exposed metal surfaces lying between the strips. (Arrangement of the strips is the same as that for the Dry-Unload Section. See Figure 15 on page 9 for details.)

10. Carefully move the Prewash-Ultrasonic Section forward to mate with the Wash-Rinse Section.

11. Once the two sections are mated, draw the sectional frame members together with clamps. (Use two 12" C Clamps and a 5-foot Bar Clamp in the same manner that was used for drawing the Dry-Unload and Wash-Rinse Sections together. See Step 10 and Figure 16 on page 10.)

12. Secure the base members of the frame at four places with 5/16" bolts, nuts, and lockwashers. (Item A, Figure 23.)

13. Secure the lower vertical frame members with six 1/4" bolts, nuts, and lockwashers. (Item B, Figure 23.)

14. Secure the interior frame of the upper compartment. Use five 1/4" bolts, nuts, and lockwashers on the nearside vertical frame (Item C, Figure 23.). Use five 1/4" nuts and lockwashers on the weld studs at the back vertical frame (Item D, Figure 23). Use two 1/4" bolts and lockwashers on the center frame (Item D, Figure 23.).

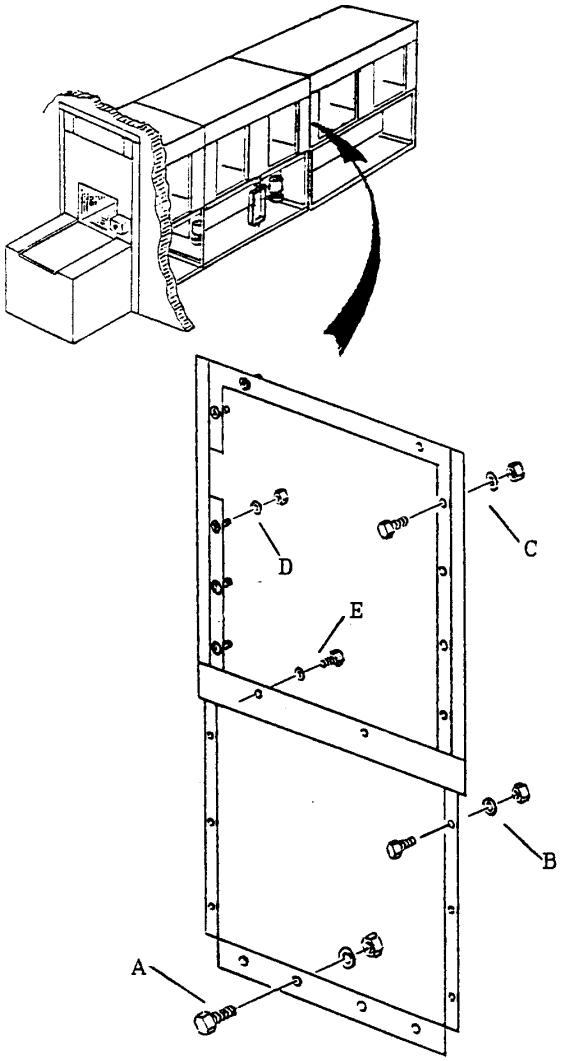


FIGURE 23: STEPS 12, 13, & 14

15. Insert the Splice Cover between the center frame and the Index Channel Support. Secure the assembly with two 1/4" bolts and lockwashers. (Splice Cover may have to be forced into position using wooden block and hammer.)

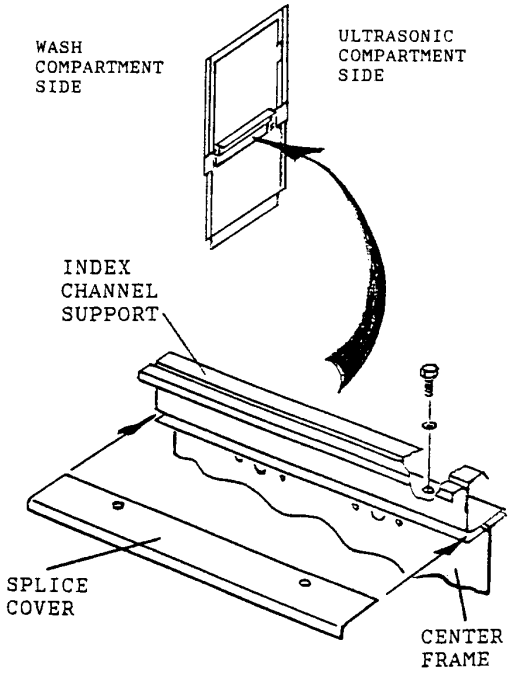


FIGURE 24: SPLICE COVER ASSEMBLY

16. Connect the ends of the Wash-Rinse Index Channels to the Prewash-Ultrasonic Index Channels. Four 1/4" bolts and lockwashers are required.

17. Assemble the two Index Channel Filler Plates that were removed in Step 6.

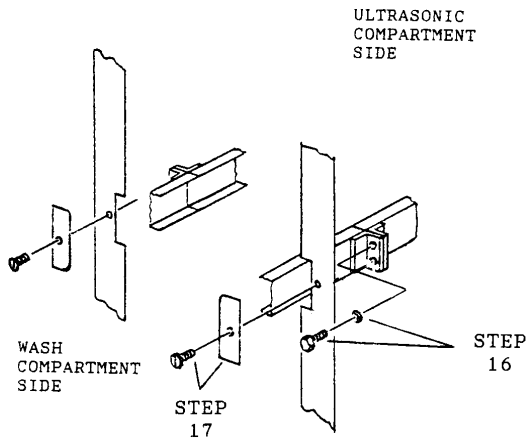


FIGURE 25: STEPS 16 & 17

LOAD SECTION

Objective: Assemble the Load Section to the Prewash-Ultrasonic Section.

NOTE

The weight of a Load Section is approximately 750 lb. (341 kg).

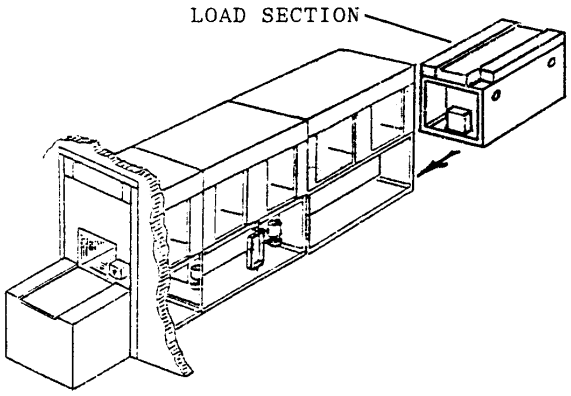


FIGURE 26: LOAD STATION

1. Unpack the Load Section and position it a few feet away from the Prewash-Ultrasonic Section.

2. Remove the lower Service Access Panels (Front and Back), and set them aside.

3. Remove any loose items and fasteners (bagged) that were placed on, or within, the section for shipping.

4. Remove the Index Cylinder Cover Plate, and set it aside. The Plate is secured with six #10-32 screws and lockwashers.

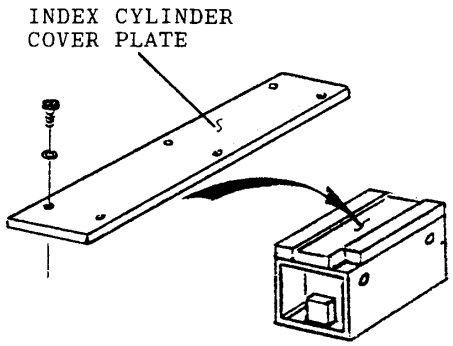


FIGURE 27: INDEX CYLINDER COVER PLATE

5. Clean all gasket-mating surfaces on both the Prewash-Ultrasonic and Load Sections with thinner.

6. Apply a coat of Silicone Primer to the mating frame of the Load Section. (See WARNING and CAUTION on page 9.)

7. Cut and affix gasket strips to the frame of the Load Section. Apply Silicone adhesive on all exposed metal surfaces lying between the strips on the top frame. (Arrangement of the strips is the same as that for the center and lower frame members of the Dry-Unload Section. See Figure 15 on page 9 for details.)

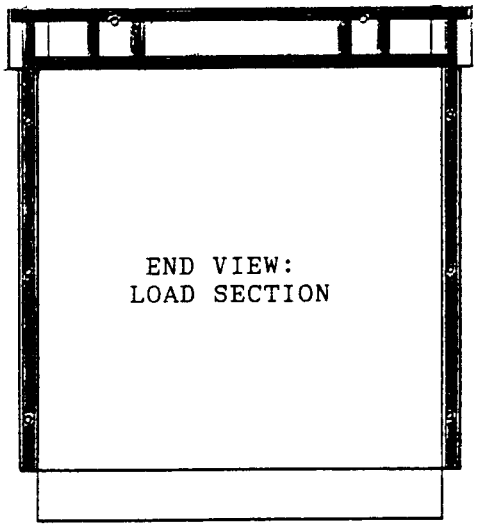


FIGURE 28: GASKET APPLICATION

8. Carefully move the Load Section forward to mate with the Prewash-Ultrasonic Section.

9. Once the two sections are mated, draw the sectional frame members together with clamps. (Use two 12" C Clamps in the same manner that was used for drawing the Dry-Unload and Wash-Rinse Sections together. See Step 10 and Figure 16 on page 10.)

10. Secure the base members of the frame at four places with 5/16" bolts, nuts, and lockwashers. (Item A, Figure 29.)

11. Secure the lower vertical frame members with six 1/4" bolts, nuts, and lockwashers. (Item B, Figure 29.)

12. Secure the upper horizontal frame members with two 1/4" bolts and lockwashers (Item C, Figure 29.).

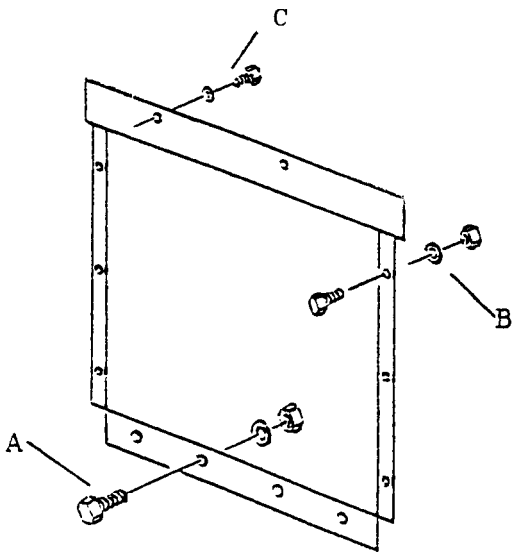


FIGURE 29: STEPS 10, 11, & 12

1. Connect the ends of the Prewash-Ultrasonic Index Channels to the Load Section Index Channels. Four 1/4" bolts and lockwashers are required. (See Figure 30.)

2. Connect the Carrier Channel Support to frame. Two 1/4" bolts and lockwashers are required. (See Figure 30.)

3. Connect the Index Frame Members. Four 1/4" bolts, nuts, and lockwashers are required. (See Figure 30.)

4. Connect the Index Cylinder Rod to the Index Frame. Two 3/4" jam nuts and a sleeve washer are required. (See Figure 30.)

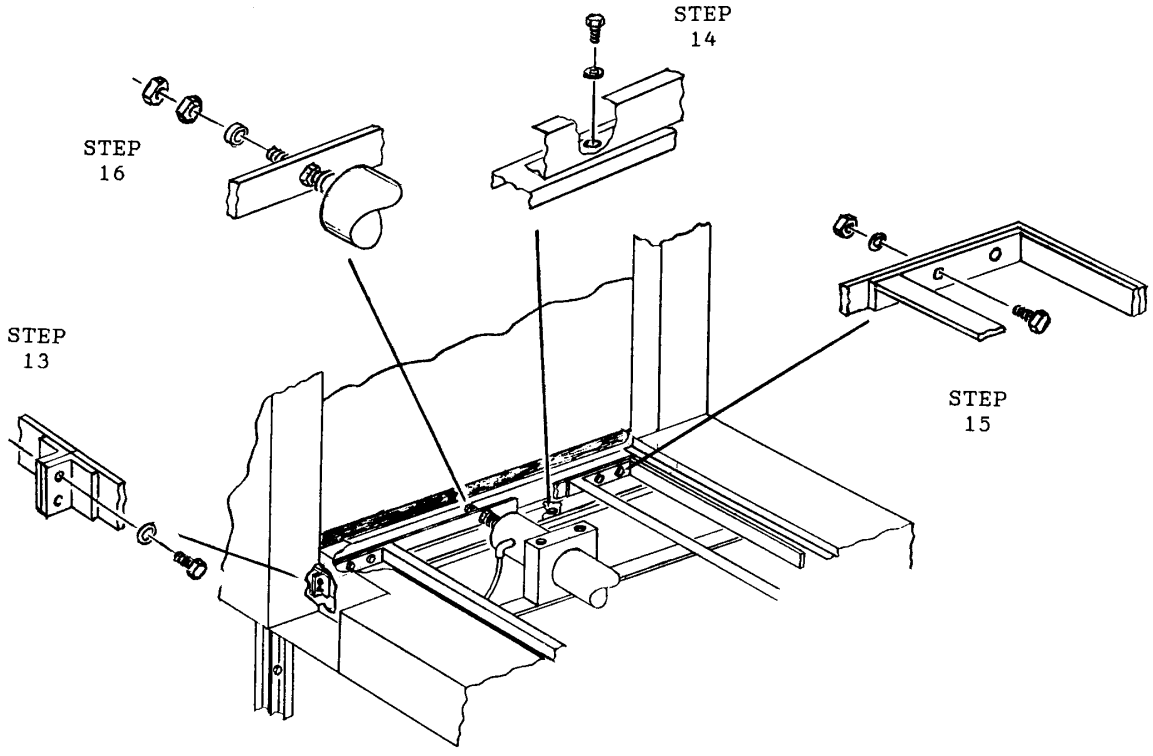


FIGURE 30: STEPS 13, 14, 15, & 16

COMPARTMENT PREPARATION

The following actions should be taken to improve working access to the interiors of the five compartments:

1. Manually raise all the guillotine doors, and prop them open with 2 x 4 x 15" blocks of wood.

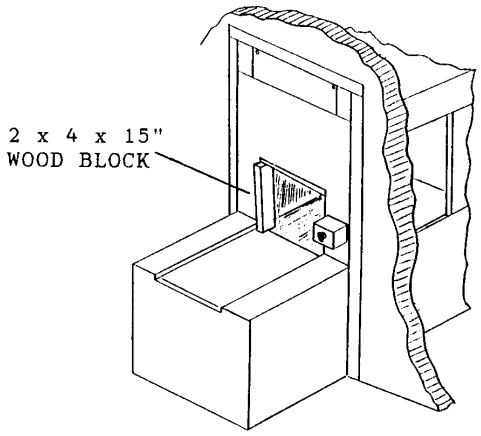


FIGURE 31: GUILLOTINE DOOR - BLOCKED OPEN

2. Unfasten and slide the Dry Compartment's Lower Intake Duct away from the frame located between the Dry and Rinse Compartments. This will improve access to the frame for further applications of sealant. (See Figure 32.)
   - Remove the four #10-32 screws from the lower portion of the Tightening Plate that secures the Upper and Lower Intake Ducts.
   - Remove the two #10-32 screws from the lower portion of the Mounting Plate that supports the front end of the Lower Intake Duct.
   - Drop the Lower Intake Duct free and move it to the center of the compartment.

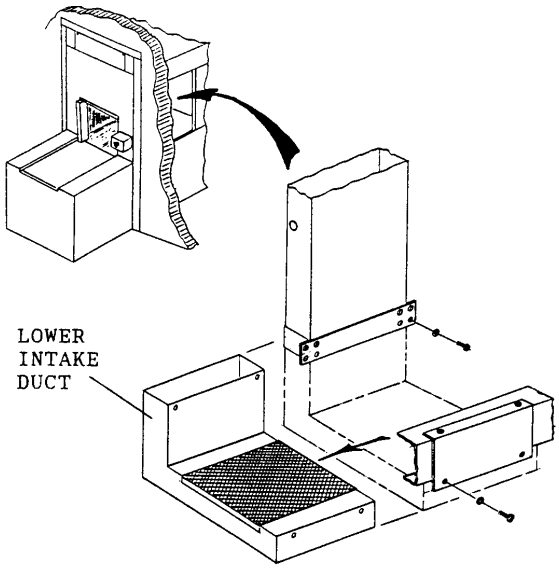


FIGURE 32: LOWER INTAKE DUCT REMOVAL

3. Disassemble and remove the upper section of the Spray Manifolds from the Wash and Rinse Compartments. (See Figure 33.)
   - Disconnect the supply hoses at the manifolds. The Wash manifold has one supply hose; the Rinse manifold has two.
   - Turn the spreader bars counterclockwise until the upper manifold section can be separated from the bottom section.
   - Work the lower ends of the upper manifold section out from under the roller covers, then remove the section from the compartment.

Once the two manifold sections are removed, there should be adequate working space available for a thorough application of sealant to interior frame members, and for the installation of the Guillotine Door Shaft.

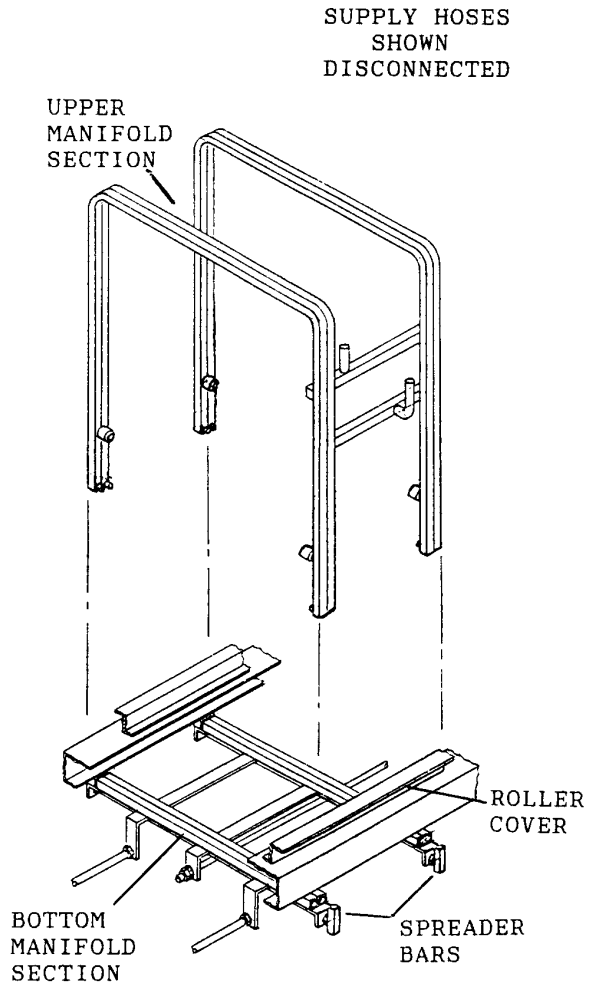


FIGURE 33: SPRAY MANIFOLD REMOVAL
(Rinse Manifold Shown)

SEAL INTERIOR FRAME JOINTS

Apply sealant to the mated edges of the interior frame joints located between the Ultrasonic and Wash Compartments and the Rinse and Dry Compartments.

GUILLOTINE DOOR SHAFT

Objective: Assemble the shaft and lifting arm assemblies that raise and lower the six Guillotine Doors.

NOTE

Skip Step 1 below if the Lifting Arms have been shipped already assembled, and connected to their respective door studs.

1. Assemble the Lifting Arms in preparation for slipping them onto the shaft. This involves connecting the upper lifting bar to the lower adjustable rod only. One plain washer and one cotter pin are required for assembly. (See view of the Prewash Compartment's Lifting Arm Assembly in Figure 34.)

2. Remove the Door Shaft Cover Plate at the Load End of the unit. The Plate is secured with four slot head screws and lockwashers.

3. Insert the Unload End of the Door Shaft through the Bearing Mount attached to the Load End wall of the Prewash Compartment.
   - The Unload End of the Door Shaft is identified by a key slot that is 2-1/2" from the end of the shaft.
   - The length of the shaft is approximately 12-1/2 feet long. A minimum clearance of 13 feet (from the Load End) will be required to accomplish Step 3.
   - Soap may be used as a lubricant, where desired.

4. Slip the Door Shaft through the cylinder end of the Prewash Compartment's Lifting Arm Assembly (Type 1), then continue to run the Shaft through the unit as follows:
   - **Ultrasonic Compartment:** Slip Shaft through the Type 1, and then the Type 2 Lifting Arm Assembly.
   - **Wash Compartment:** Slip the Retaining Collar onto the Shaft, then run Shaft through the Type 1 Lifting Arm Assembly.

TYPE 1 LIFTING ARM:
Equipped with 1 weld stud on upper arm bar.

TYPE 2 LIFTING ARM:
Equipped with 2 weld studs on upper arm bar.

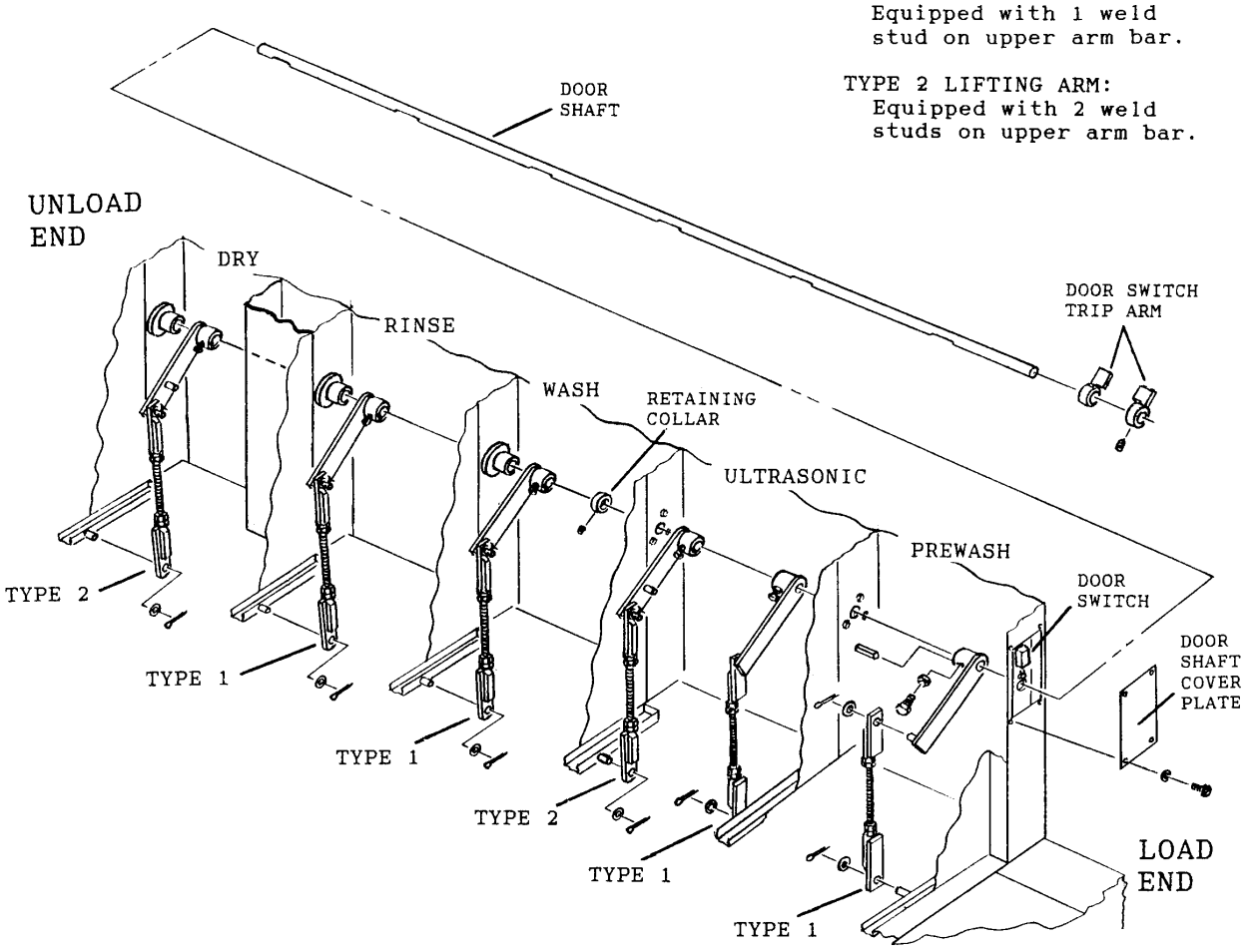


FIGURE 34: DOOR SHAFT AND LIFTING ARM ASSEMBLY

- **Rinse Compartment**: Run Shaft through the Type 1 Lifting Arm Assembly.
- **Dry Compartment**: Run Shaft through the Type 2 Lifting Arm Assembly, and continue until the Shaft bottoms out in the Bearing Mount attached to the Unload End wall.

If the two Door Switch Trip Arms were shipped attached to the Load End of the Shaft, make sure they are positioned so that one is on either side of the Door Switch's Operating Lever - and skip Step 7. If the two Trip Arms were shipped loose, Step 7 will have to be performed at the appropriate time.

5. Return to the Wash Compartment and position the Retaining Collar up against the Bearing Mount that is attached to the wall separating the Wash and Ultrasonic Compartments. Tighten the Collar (by means of its set screw) onto the Shaft.

6. Go to the Prewash Compartment and secure the Lifting Arm to the Door Shaft.

   a) Rotate the Shaft until the key slot in the Shaft aligns with the key slot in the Lifting Arm Cylinder.

   b) Insert the rectangular stainless steel key into the Door Shaft key slot.

   c) Bring the Cylinder over the Shaft key until the assembly is securely engaged.

   d) Connect the Lifting Arm's Lower Adjustable Rod to the stud attached to the bottom of the Load End Door. One plain washer and one cotter pin are required for assembly.

7. Assemble and set the two Door Switch Trip Arms. (Skip this step if the Trip Arms are already attached to the end of the Shaft.)

   a) Slip the first Trip Arm (with flag extending out) onto the end of the Door Shaft.

   b) Manually raise the Load End Door and hold it in its fully open position.

   c) Rotate the Trip Arm counterclockwise until it contacts the switch and a click is heard. Rotate the Arm just a degree or two more, then secure the Arm (by its set screw) to the Shaft.

   d) Lower the Load End Door to its closed position.

   e) Slip the second Trip Arm (with flag extending in) onto the end of the Door Shaft.

   f) Rotate the Trip Arm clockwise until it contacts the switch and a click is heard. Rotate the Arm just a degree or two more, then secure the Arm (by its set screw) to the Shaft.

8. Secure all remaining Lifting Arm Assemblies to their respective doors and the Door Shaft. (Ref: Step 6b,c,d.)

Do not replace the Door Shaft Cover Plate at this time. Wire connections have yet to be made to the Door Switch.

GUILLOTINE DOOR AIR CYLINDERS

Objective: Assemble the two Guillotine Door Air Cylinders on top of the Washer and attach each to its related Type 2 Lifting Arm. NOTE: The Cylinder Assemblies are identical.

1. Select and install the first Cylinder Assembly (Ref: Figure 35).
   - Apply sealant to the area that is to be covered by the Cylinder's mounting frame.
   - Secure the Mounting frame to the top of the Washer using sixteen #10-32 x 1/2" pan head slotted screws.
   - Mate and secure the Door Cylinder Clevis to the Lifting Arm Assembly in the compartment using a flat washer and cotter pin.

2. Install the second Cylinder Assembly using the same procedure that was used for the first.

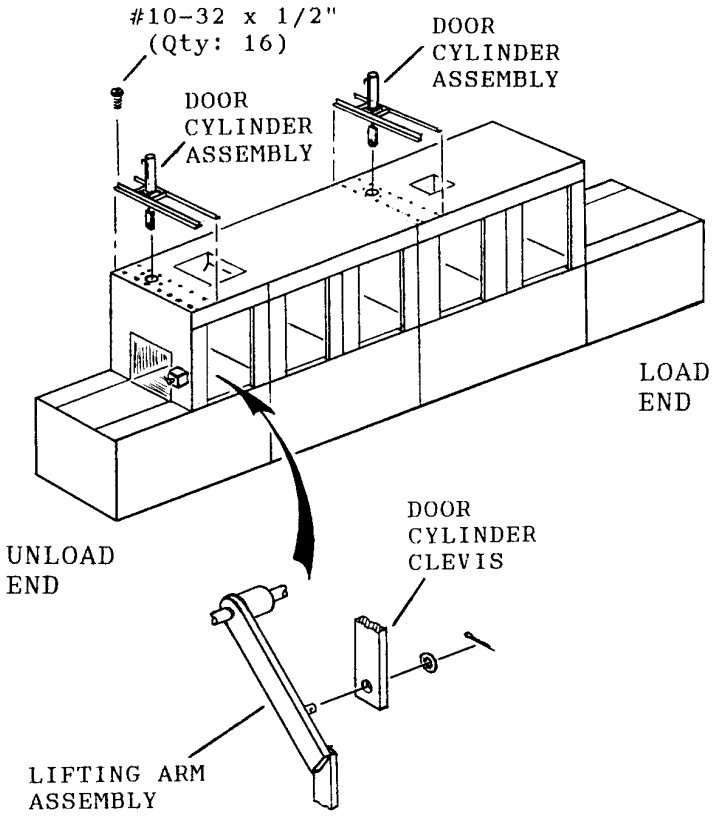


FIGURE 35: DOOR AIR CYLINDERS

ULTRASONIC ELEVATOR AIR CYLINDER

Objective: Assemble the Ultrasonic Elevator Air Cylinder on top of the Washer. Attach the Cylinder's rod to the Elevator body located inside the Ultrasonic Compartment. (Ref: Figure 36.)

Position the Ultrasonic Elevator Air Cylinder in the Cylinder Well located above the Ultrasonic Compartment. Secure the Cylinder in place with 5/16-18 x 1" bolts.

Check the Cylinder with a torpedo level to make sure it is plumb. Perform any required adjustments.

Secure the Cylinder's rod to the Elevator located inside the Ultrasonic Compartment. Use two ½-13 hex head jam nuts, hex head nuts, and flat washers.

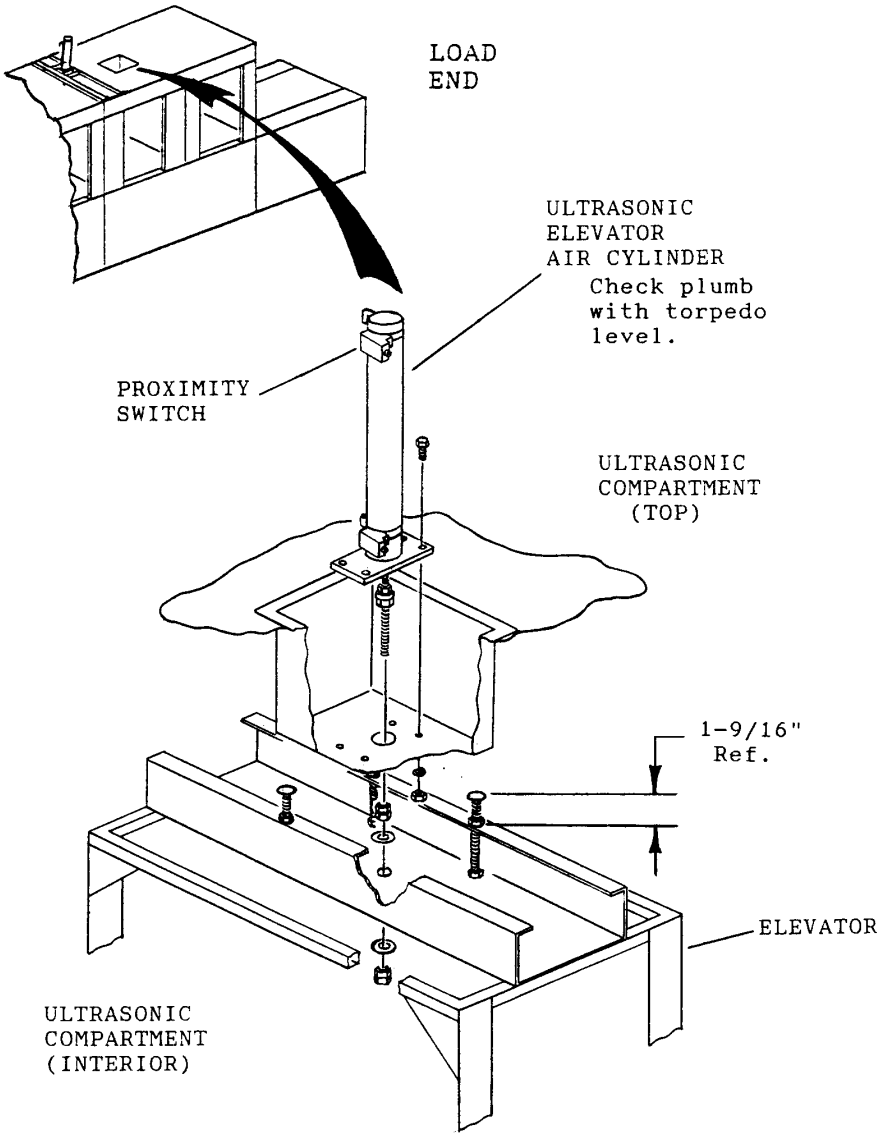


FIGURE 36: ULTRASONIC ELEVATOR AIR CYLINDER

DRYER ASSEMBLY

Objective: Install the Dryer Assembly on top of the Washer. (Ref: Figure 37.)

WARNING

The Dryer Assembly weighs approximately 200 pounds. Do not attempt to lift this Assembly into position without sufficient help. A minimum of four people should be used.

NOTE

Additional instructions have been included here for the installation of an optional condenser - should one be provided.

1. Lift the Dryer Assembly and place it in position on top of the Washer. Align the 1/4" diameter holes in the Assembly frame with the matching #10-32 threaded holes in the Washer.

2. Secure the Dryer Assembly in position. Use #10-32 x 3/4" slotted screws and lock washers.

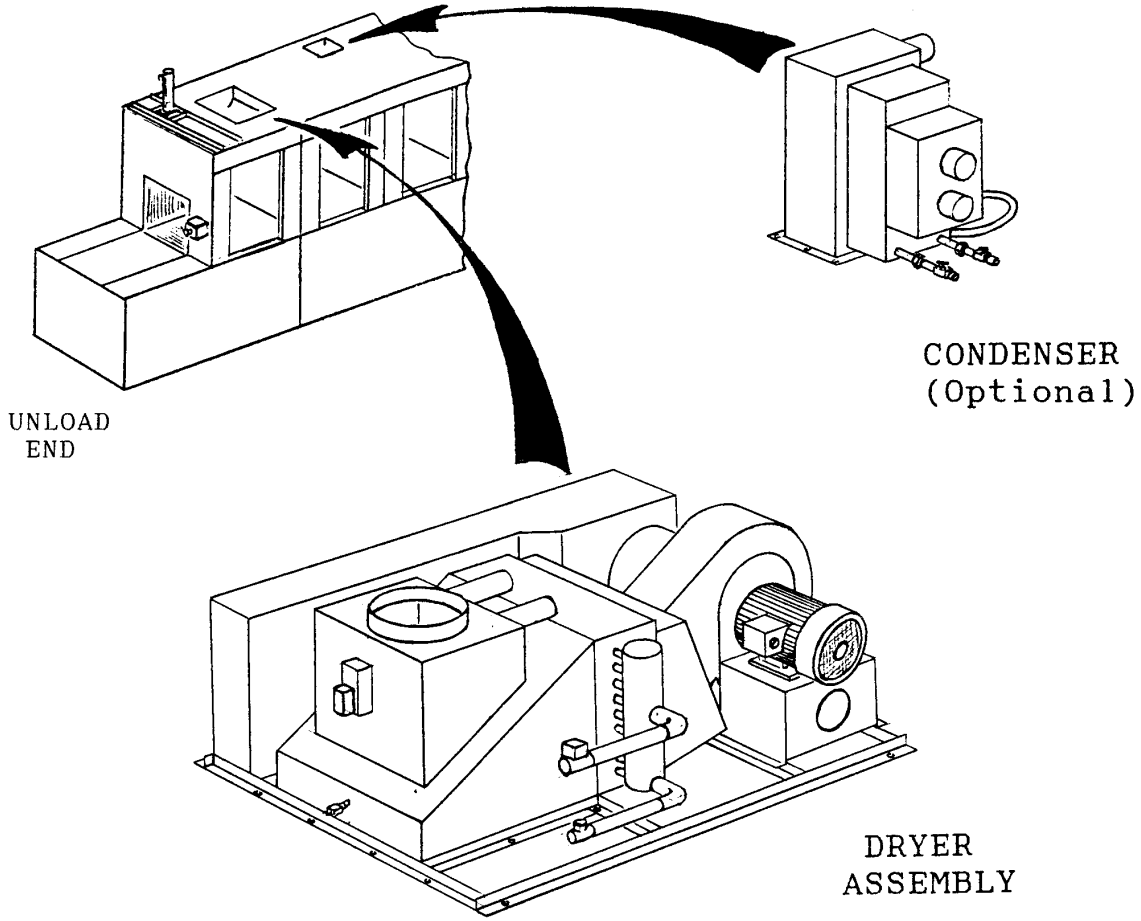


FIGURE 37: DRYER ASSEMBLY (And OPTIONAL CONDENSER)

Without Optional Condenser:

1. Assemble the Load End Exhaust Hose. Secure the Hose's Support Bracket to the top of the Washer with four #10-32 screws and lockwashers. Connect one end of the Hose to the Vent Tube located over the Load End. Connect the other end of the Hose to the far-side tube on the Exhaust Duct Assembly. (See Figure 38.)

2. Assemble the Wash Compartment Exhaust Hose. Route Hose from Vent Tube located over the Wash Compartment to the near-side tube on the Exhaust Duct Assembly. (See Figure 38.)

With Optional Condenser:

1. Position the Condenser over the vented opening above the Wash/Rinse Compartments. Secure the Condenser in position with eight #10-32 screws and lock washers.

2. Assemble the Load End Exhaust Hose. Secure the Hose's Support Bracket to the top of the Washer with four #10-32 screws and lockwashers. Connect one end of the Hose to the Vent Tube located over the Load End. Connect the other end of the Hose to the side tube on the Condenser (See Figure 38.)

3. Route Hose from the upper tube in the Condenser to the far-side tube on the Exhaust Duct Assembly. (See Figure 38.)

4. Route Hose from the lower tube in the Condenser to the near-side tube on the Exhaust Duct Assembly. (See Figure 38.)

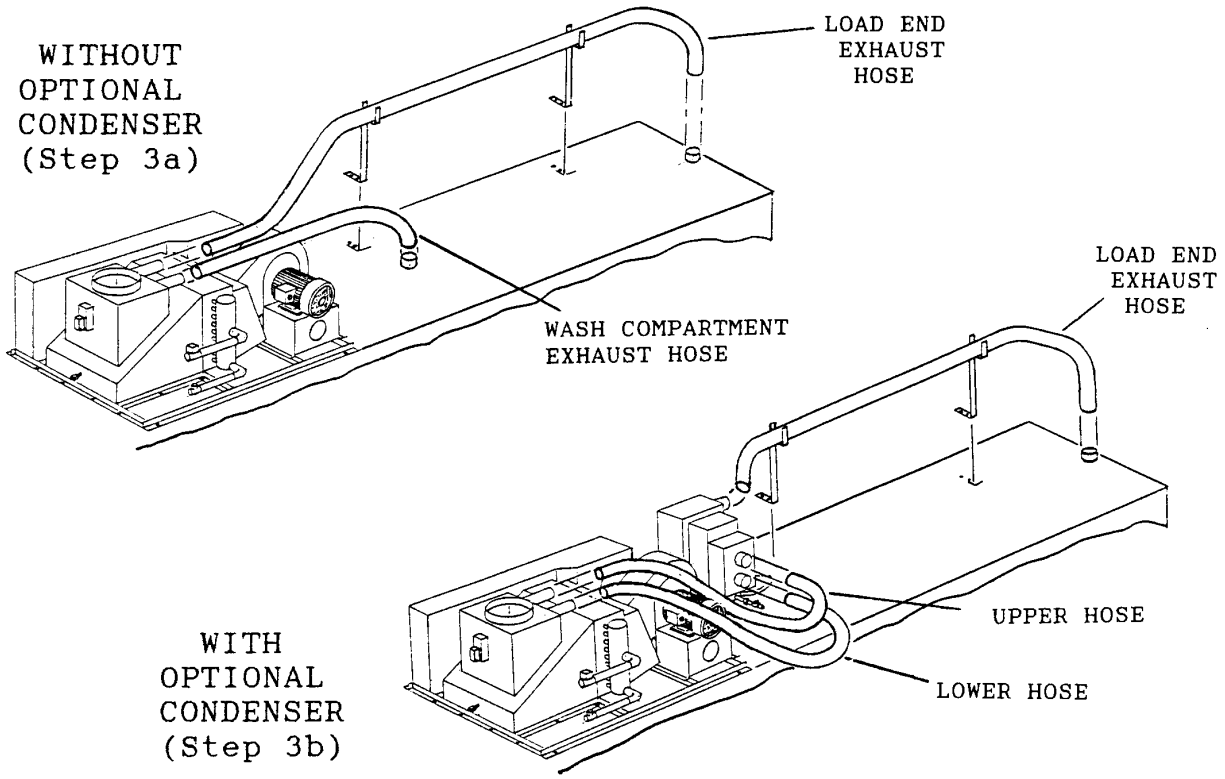


FIGURE 38: EXHAUST HOSE ASSEMBLY

AIR CYLINDER SOLENOID VALVE ASSEMBLY

Objective: Install the Air Cylinder Solenoid Valve Assembly on top of the Washer. (Ref: Figure 39.)

Lift the Air Cylinder Solenoid Valve Assembly and place it in position on top of the Washer, over the Ultrasonic Compartment. Align the four 1/4" diameter holes in the Assembly panel with the matching #10-32 threaded holes in the Washer.

Secure the Assembly in position. Use four #10-32 x 3/8" slotted screws and lock washers.

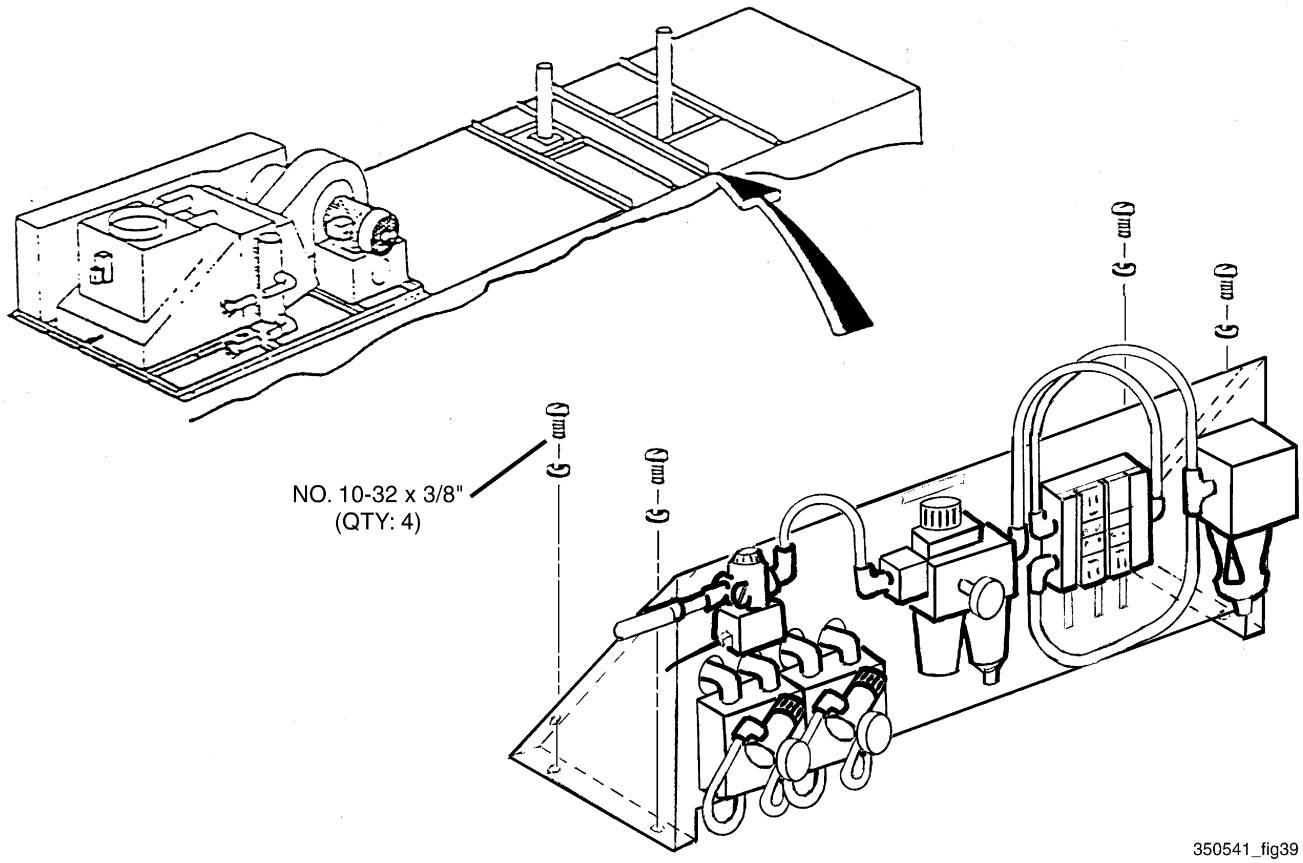


FIGURE 39: AIR CYLINDER SOLENOID VALVE ASSEMBLY

CONTROL PANEL BOX

Objective: Install the Control Panel Box at the Load End of the Washer.

1. Remove the Cover Panel from the Control Panel Box.

   - Turn the two slotted Latching Pawls 90-degrees to disengage the top of the Cover Panel. The Panel will tilt back and away until the Panel Stop engages the side of the Box.
   - Press the Panel Stop IN to disengage it. This will release the top of the Cover Panel.
   - Slide the Cover Panel to the side to disengage the two hinges at the bottom of the Panel.

2. Apply silicone sealant to the Control Panel Box's mating surface on the Loader. (See Figure 40.)

3. Assemble the Control Panel Box to the Loader. Secure the Box in place with four #10-32 x 3/8" screws and lock washers.

Do not reassemble the Cover Panel to the Control Panel Box at this point. Cables have to be routed thru the Box, and wire connections made inside.

JUNCTION BOX #1 (JB-1)

Objective: Install Junction Box #1 (JB-1) on top of the Washer. Route applicable wiring through the Control Panel Box. Reassemble the Cover Panel to the Control Panel Box.

1. Position JB-1 (plain side out) over the Prewash Compartment. Align the four 1/4" diameter holes in the bottom of the box with the matching #10-32 threaded holes in the top of the Washer. Secure the box in position with four #10-32 x 3/8" screws. (Ref: Figure 41.)

1. Feed the #1 Cable and Wire Harness through the cutout in the top of the Control Panel Box.

2. Secure the Cable Mounting Plate to the Control Panel Box using two #10-32 x 3/8" screws and lock washers.

3. Route the #1 Cable through to the Main Control Box. Connect to the #1 Receptacle.

4. Make wire connections from the wire harness to the Audible Alarm located in the Control Panel Box.

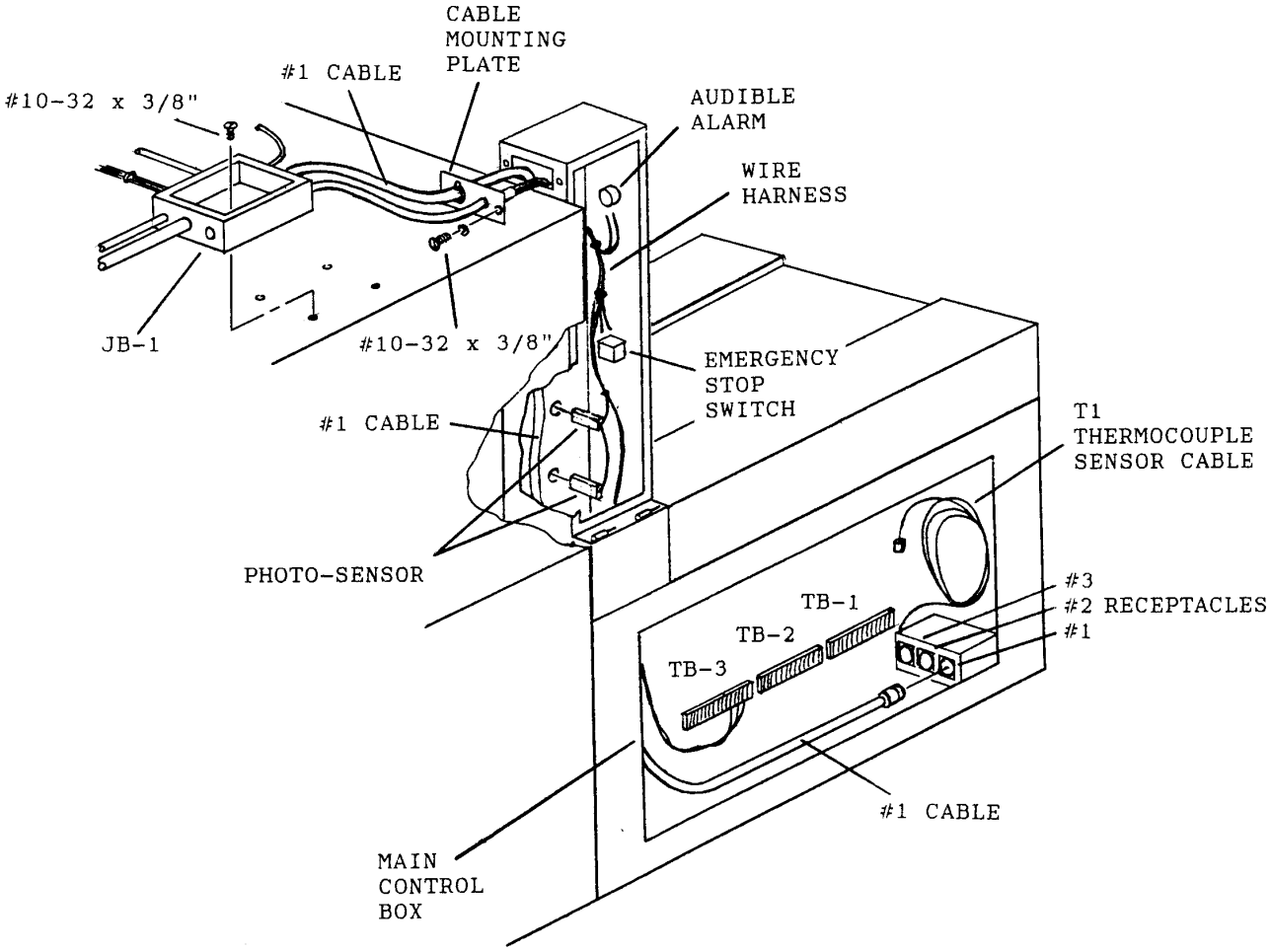


FIGURE 41: JUNCTION BOX #1 (JB-1)

5. Make wire connections from the wire harness to the Emergency Stop Switch located in the Control Panel Box.

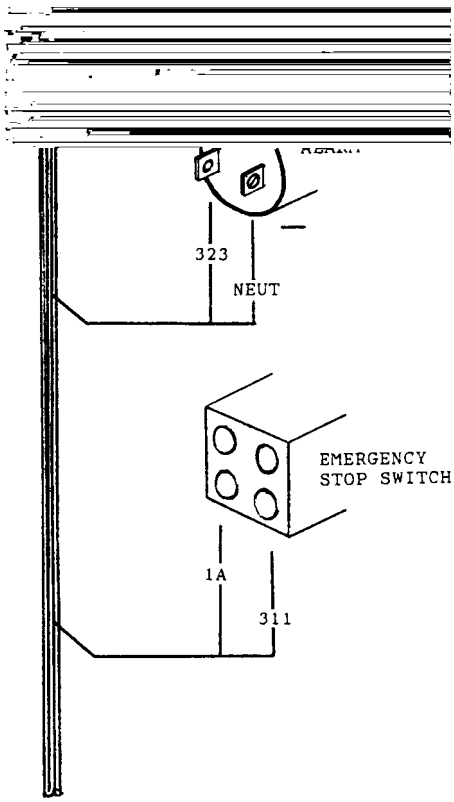


FIGURE 42: STEPS 5 & 6

6. Assemble the two Photo-Sensors to the back of the Control Panel Box.

7. Route the remaining three wires of the wire harness to the Main Control Box. Connect to Terminal Block #3 (TB-3).

8. Route the T1 Thermocouple Sensor Cable from the Main Control Box back up through the Control Panel Box and out through the notch provided in the Cable Mounting Plate. Run this Cable along the top of the Washer to the Dryer Exhaust Duct. Make connection to the plug located at the base (unload end) of the duct.

9. Reassemble the Cover Panel to the Control Panel Box. (Refer to Step 1 on page 24, and reverse procedure.)

10. Route the #2 Cable from the Cover Panel through the Control Panel Box to the Main Control Box. Connect to the #2 Receptacle.

EXTERIOR PLUMBING

Objective: Install required plumbing at the back and top of the Washer.

NOTE

Actual configuration of an individual plumbing line and/or the position of a plumbing line support may vary from that shown in Figure 52.

1. Install vertical plumbing behind the Dry Compartment (Ref: Figure 52.).
2. Install Air-in, Steam-In, and Condensate return lines at the top of the washer (Ref: Figure 52.).
3. Assemble the Steam-In Solenoid's Coil Housing (from JB-2) to the valve body in the Steam-In line.
4. Assemble the Air-In Solenoid's Coil Housing (from JB-1) to the valve body in the Air-In line.

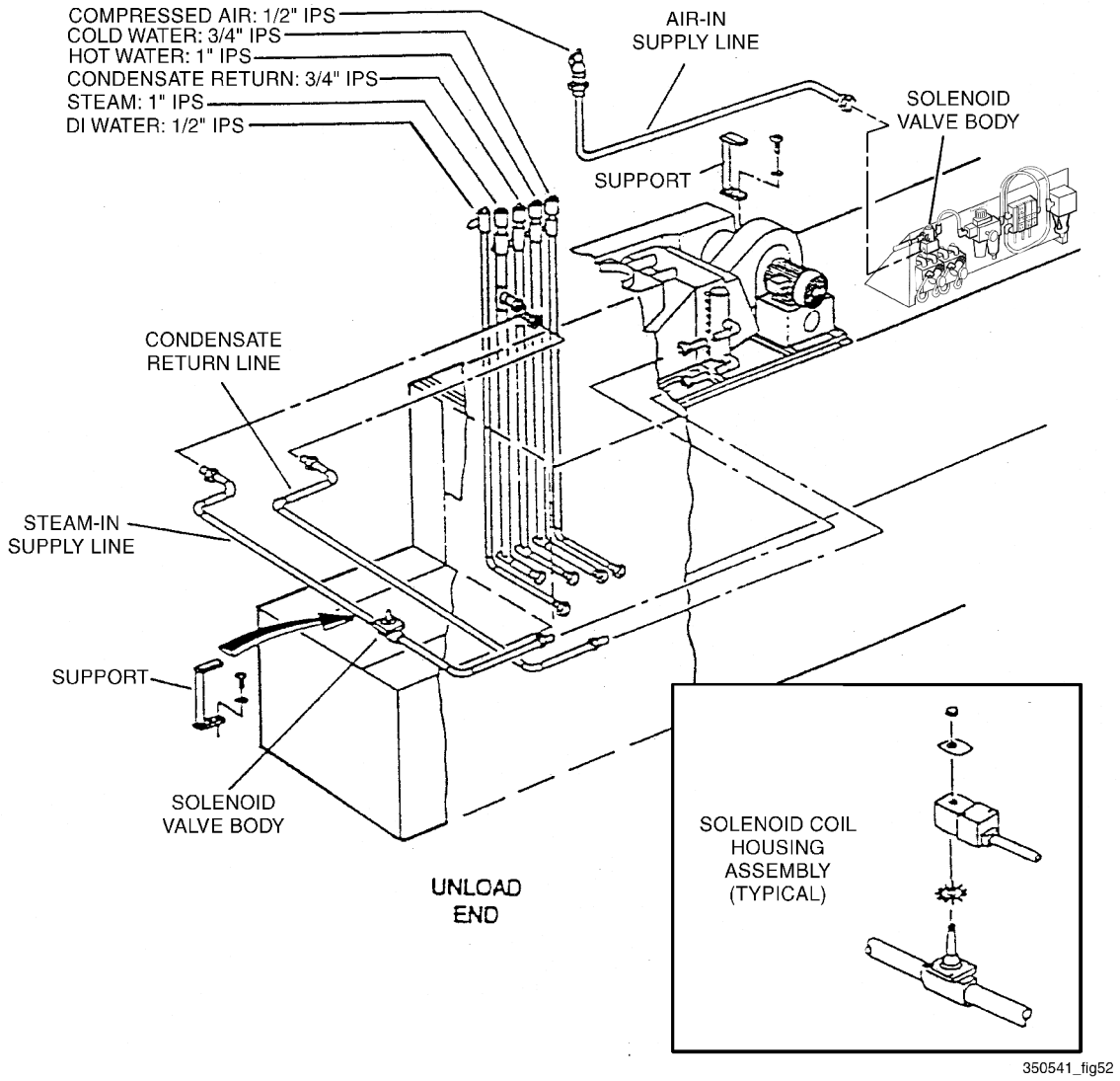


FIGURE 52: EXTERIOR PLUMBING

CONDENSER PLUMBING (OPTION)

Objective: Install the supply and drain lines to the Condenser, if the unit is equipped with this optional component.

1. Install the 3/8" water line from the Cold Water Supply to the Condenser (Ref: Figure 53.).

2. Install the Condenser's 3/8" drain line. Route to drain (Ref: Figure 53.).

3. Assemble the Water Line Solenoid's Coil Housing (from JB-1) to the valve body in the water line.

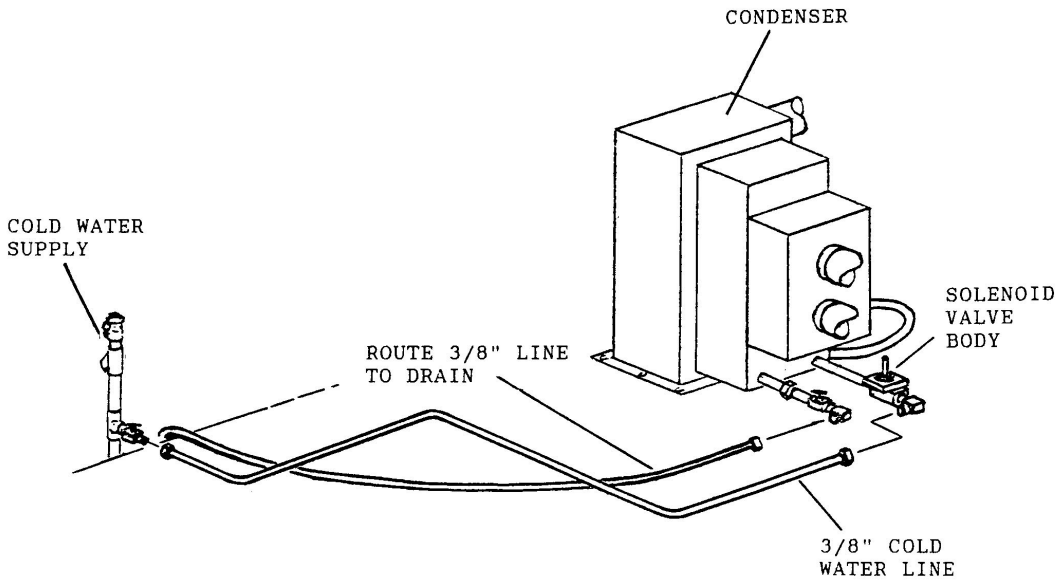


FIGURE 53: CONDENSER PLUMBING (OPTION)

ULTRASONIC GENERATORS

Objective: Install the three Ultrasonic Generators at the Load End of the Washer. (Ref: Figure 54.)

1. Remove the Loader End Panel.

2. Route the three Transducer Cables from the Ultrasonic Immersion Tank around the back of the Main Control Box to the Ultrasonic Generator position at the load end of the Washer.

3. Place the Ultrasonic Generators in their operating positions.

   - Make Transducer Cable connections to the back of the Generators.

   - Make power supply connections to the receptacles located on the side of the Main Control Box.

NOTE

No designated order is required when positioning the generators or making related transducer/ power supply connections.

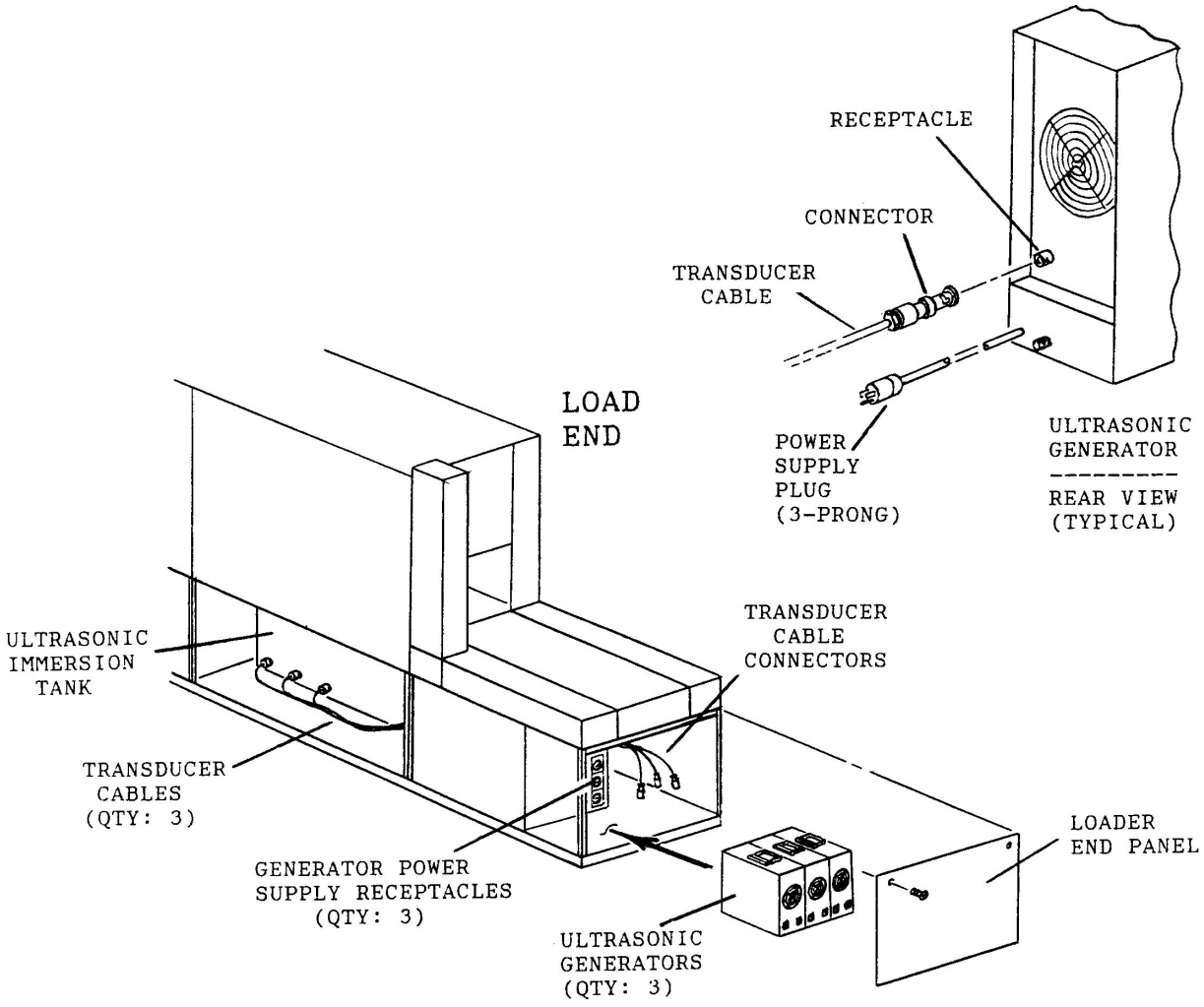


FIGURE 54: ULTRASONIC GENERATORS

INTERIOR PLUMBING

Objective: Connect all interior steam and water lines that were disconnected for shipping.

1. Clean all broken unions with a scrub pad to prevent possible leaks caused by accumulations of particulates and grit.

2. Make the connections.

INTERIOR THERMOCOUPLE CABLES

Objective: Connect the three remaining thermocouple cables to the Wash, Rinse, and DI reservoir tanks. (Ref: Figure 55.)

1. Route the three thermocouple cables from behind the Main Control Box and through the lower interior of the Washer.

2. Connect the shortest length of cable to the plug attached to the Wash reservoir tank; then, the mid-length cable to the Rinse reservoir tank; and finally, the longest cable to the DI reservoir tank.

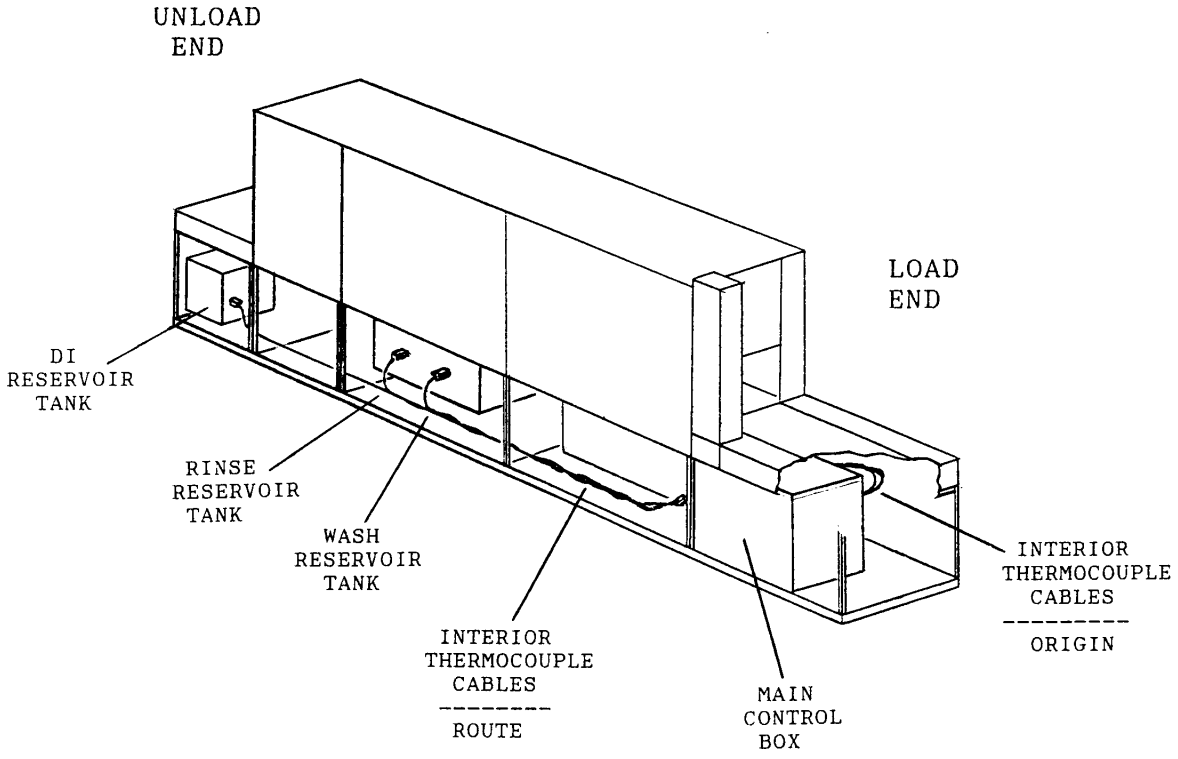


FIGURE 55: INTERIOR THERMOCOUPLE CABLES

DETERGENT SUPPLY TUBING

Objective: Set up the Ultrasonic and Wash detergent supply tubing. (Ref: Figure 56.)

1. Connect the Wash Detergent Pump's outlet tube to the Wash Reservoir Tank.

2. Cut out an appropriate sized hole in the back panel near the intended location of the Wash and the Ultrasonic detergent supplies.

3. Route the supply tubes from both the Ultrasonic Detergent Injector and the Wash Detergent Pump through the hole cut in the back panel.

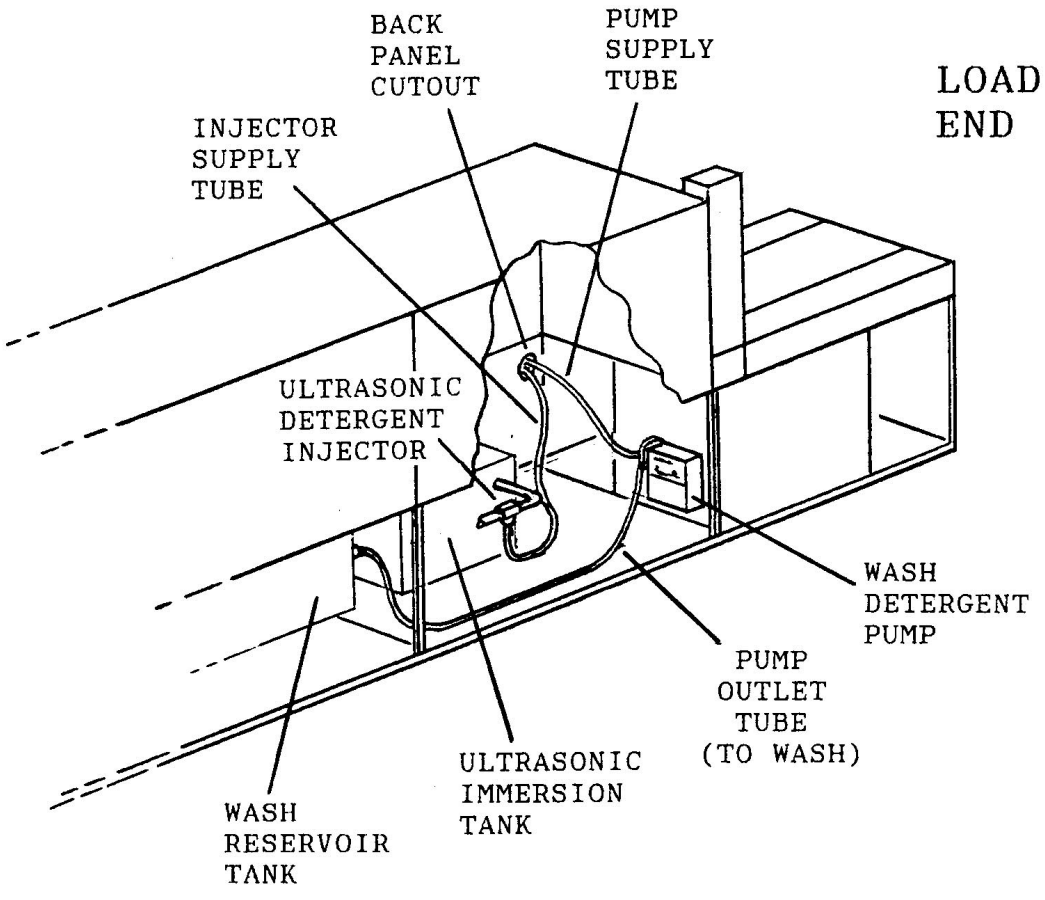


FIGURE 56: DETERGENT SUPPLY TUBING

JUNCTION BOX #3 (JB-3)

Make the required cable connection to Junction Box #3 (JB-3), from Junction Box #4 (JB-4). (Ref: Figure 57.)

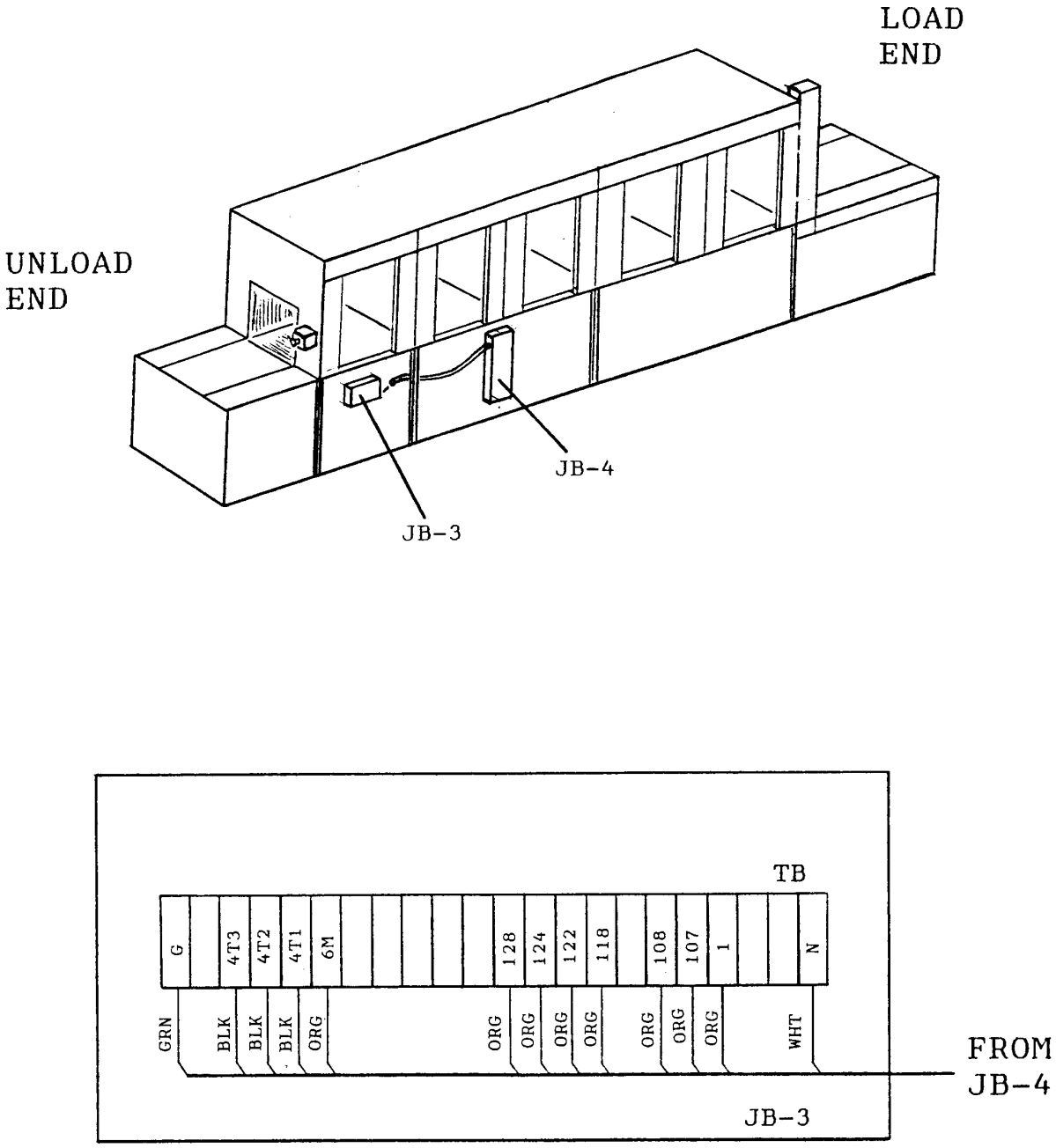


FIGURE 57: JUNCTION BOX #3 (JB-3)

JUNCTION BOX #5 (JB-5)

Make two cable connections to Junction Box #5 (JB-5). 1. From Junction Box #4 (JB-4). 2. From the Wash Detergent Pump. (Ref: Figure 58.)

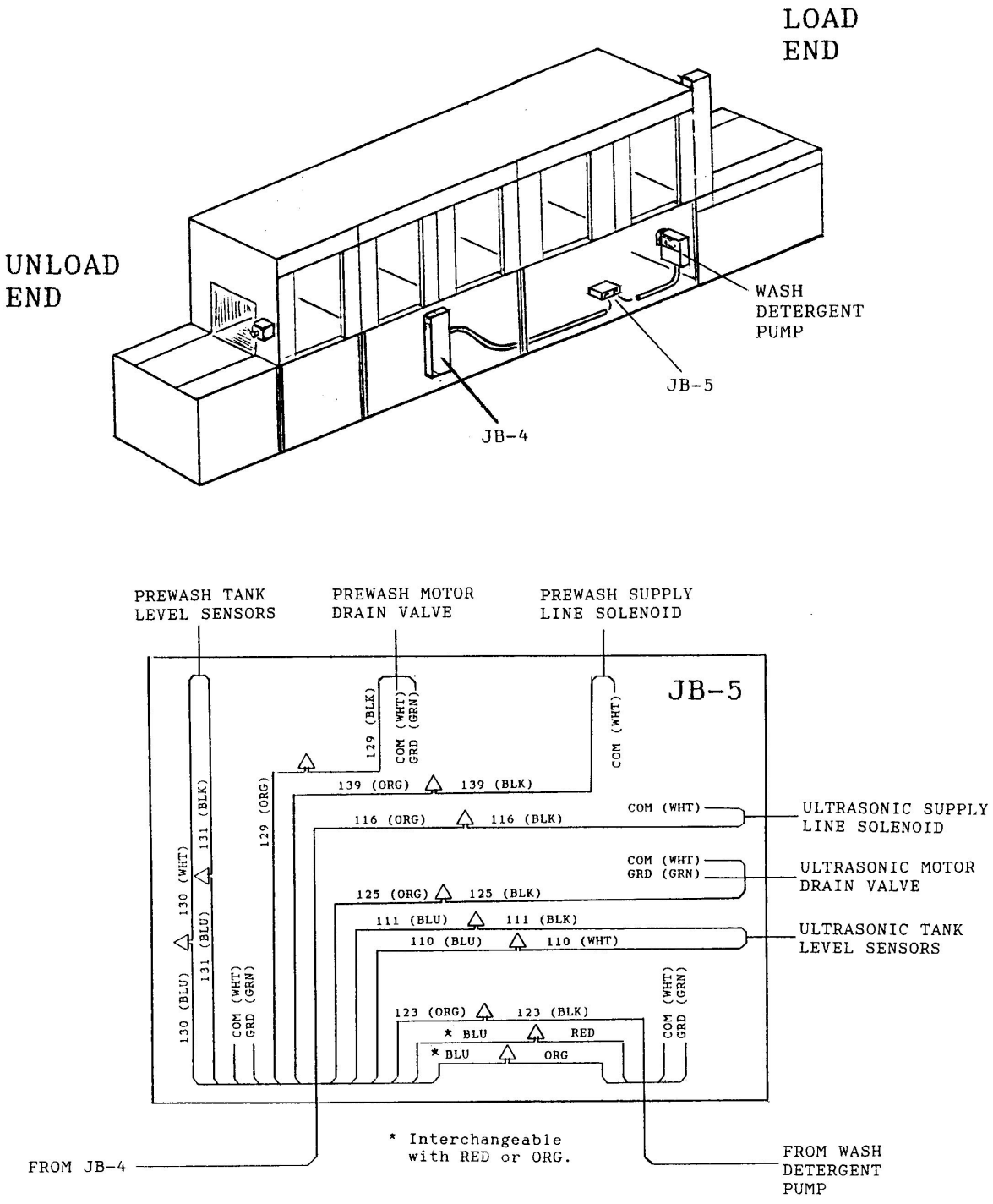
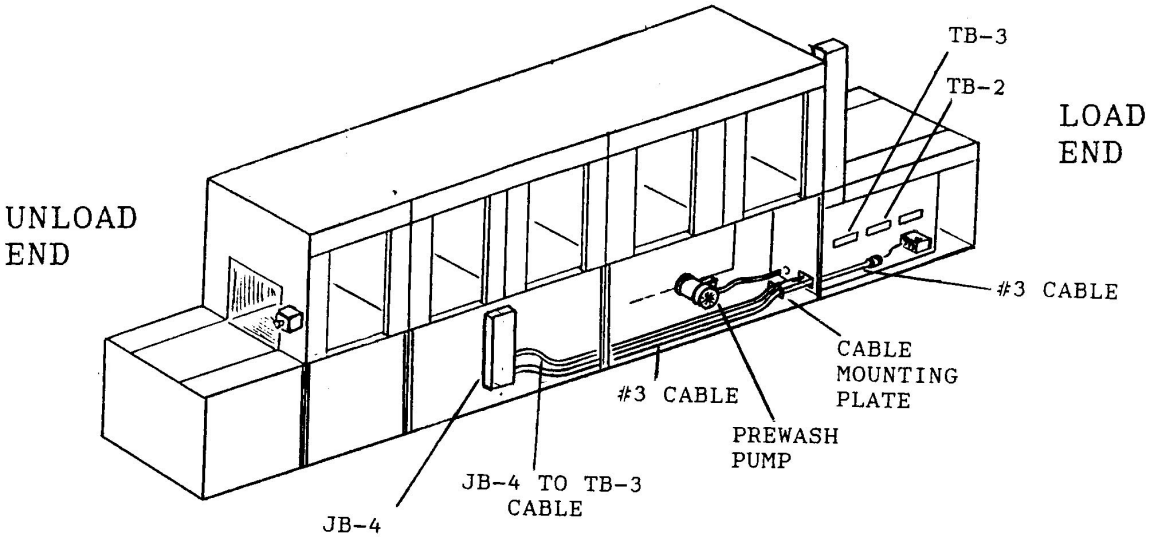


FIGURE 58: JUNCTION BOX #5 (JB-5)

MAIN CONTROL BOX

Objective: Connect #3 Cable. Make remaining wire connections from JB-4. Make wire connections from the Prewash Pump. (Ref: Figure 59.)

1. Route the cable from the Prewash Pump into the Main Control Box. Make wire connections as shown in the diagram below.
2. Feed the #3 Cable and the JB-4 To TB-3 Cable through the cutout in the side of the Main Control Box.
3. Secure the Cable Mounting Plate to the Box using #10-32 x 3/8" screws and lock washers.
4. Plug the #3 Cable into the #3 Receptacle.
5. Make the JB-4 To TB-3 Cable connections as shown in the diagram below.



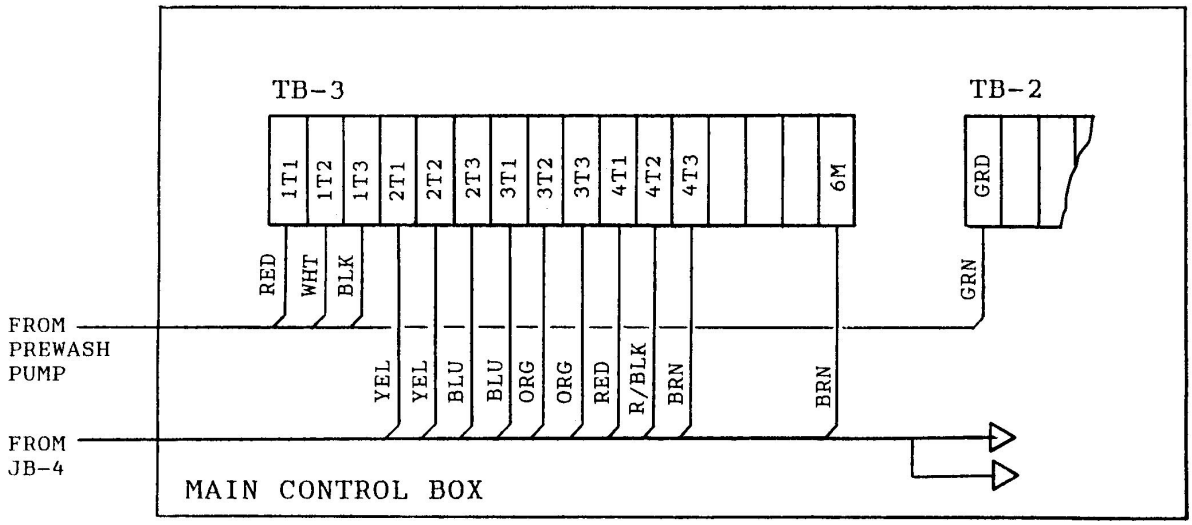


FIGURE 59: MAIN CONTROL BOX

EXHAUST CONNECTION
(Applies to units with Vented Drying only.)

Install a dedicated, corrosion-proof, watertight duct (500 CFM, Negative 1/2" Static Pressure) from the 8-inch diameter vent to the building's exhaust system. Duct assembly should be sloped towards the Washer.

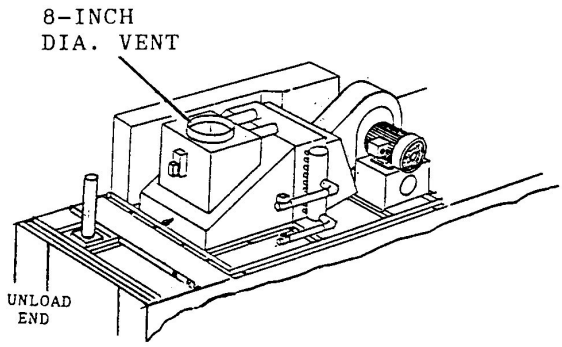


FIGURE 60: EXHAUST CONNECTION

PLUMBING SERVICE CONNECTIONS

All service connections must conform to local codes. Supply line connections are labeled for identification. Refer to UTILITIES & SPECIFICATIONS (page 2) for pipe sizes, pressures, and requirements at site of installation. (See also Figure 52, page 33.)

1. Connect 1-inch hot water supply line to the 1-inch service connection.

2. Connect ¾-inch cold water supply line to the ¾-inch service connection.

3. Connect 1-inch steam supply line to the 1-inch steam service connection.

4. Connect ¾-inch steam return or drain line to the ¾-inch condensate line connection.

5. Connect ½-inch purified water supply line to the ½-inch DI water service connection.

6. Connect ½-inch compressed air supply line to the ½-inch compressed air service connection.

7. Connect a 2-inch drain line to the 2-inch drain fitting.

8. For Washers with Non-Vented Drying: Route the 3/8-inch condenser drain line to drain. (See Figure 53, page 34.)

ELECTRICAL SUPPLY CONNECTION

NOTE

A fused disconnect (supplied by customer) must be installed in the electrical supply line. It should be situated close to the unit for easy access by service personnel.

1. Route the electrical supply line through the back of the Main Control Box to the Power Distribution Block.

2. Make the electrical supply line connection.

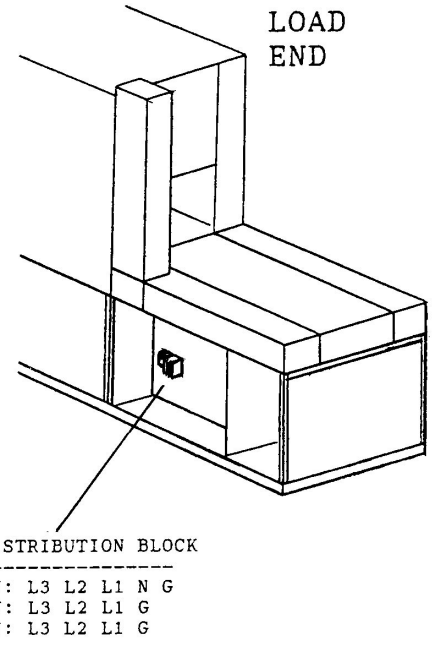


FIGURE 61: ELECTRICAL SUPPLY CONNECTION

EXTENDER PANELS

Objective: Assemble the remaining five Extender Panels to the top of the Washer. Three panel sections were previously assembled at the Unload End (Ref: Step 4, page 8.).

Assemble the following Extender Panels as shown in Figure 62 below:

- Front Panel
- Load End Panel
- Rear Panel
- Removeable Panel (Rear)
- Removeable Panel (Front)

***Note**: The two Removeable Panels are interchangeable.*

Use #10-32 x 3/8"L Fasteners. Where required to provide threaded holes for securing one panel to another, use a #21 hi-speed drill and #10-32 tap.

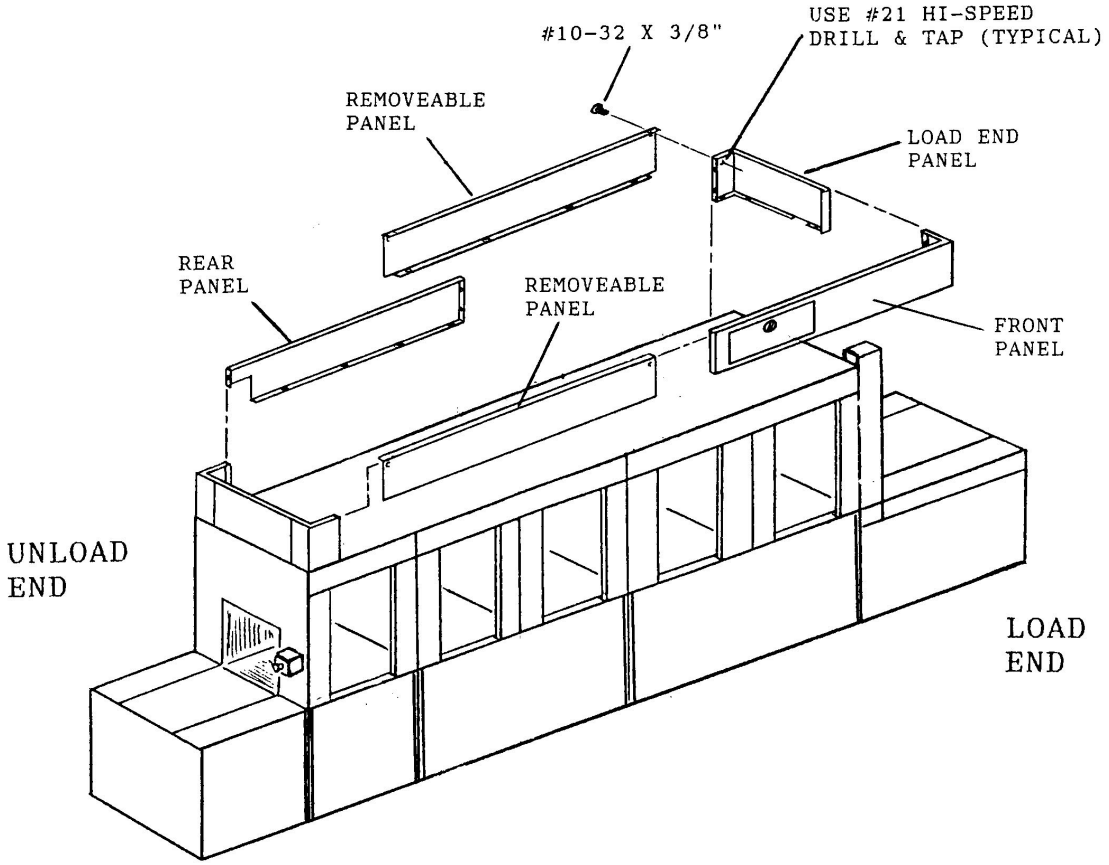


FIGURE 62: EXTENDER PANELS

CONCLUDING TASKS

- Reassemble the Lower Intake Duct that was disassembled in Step 2 of the Compartment Preparation section (page 16).
- Reassemble the Wash and Rinse Spray Manifolds that were disassembled in Step 3 of the Compartment Preparation section (page 16).
- Check the overall level of the unit and adjust as required using the 3 x 6" stainless steel shims provided.
- Re-install all the Service Panels and Compartment Doors that were previously removed.
- Apply Silicone sealant to all permanent exterior seams.
- Clean and polish the exterior surfaces of the Washer.

At this point, installation is complete. Getinge/Castle personnel must be contacted to make mechanical adjustments and electrical performance tests before the equipment is operated. Failure to have the specified Product Support personnel inspect and test this equipment before operation voids the warranty.

NOTES

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